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THE WRITINGS OF BENJAMIN FRANKLIN

VOLUME III

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THE WRITINGS

OF

BENJAMIN FRANKLIN

COLLECTED AND EDITED
WITH A LIFE AND INTRODUCTION

BY

ALBERT HENRY SMYTH

VOLUME III

1750–1759

WITHDRAWN

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PREFATORY NOTE

THE writings of Franklin are published in this edition strictly in chronological order. In some instances it has been impossible to determine exactly the date of composition, and such works have been placed in the Appendix. In this volume the "Plan for Settling two Western Colonies in North America, with Reasons for the Plan" (pages 358–366), has been entered under the year 1756, at which time it was presented by Governor Pownall as a Memorial to the Duke of Cumberland. It is clear from Franklin's letter to Peter Collinson, June 26, 1755 (page 265), that it was written before the autumn of 1754, and it should therefore have been published as of that year.

The "Papers relating to a Plan of Union of the Colonies" have been reprinted from the "Minutes of the Provincial Council of Pennsylvania," volume vi., page 105; and from "New York Colonial Documents" (O'Callaghan), volume vi., pages 853–892.

The letters to Catherine Ray, afterwards wife of William Greene, governor of Rhode Island, have been reprinted from the *Rhode Island Mercury*, where they were first published by William B. Weeden. The original letters are in the possession of Mrs. E. J. Roelker.

The "Report of the Committee of Aggrievances of the Assembly of Pennsylvania," dated February 22, 1757, has always been printed among the Works of Franklin, and it is so printed here (pages 370–377). I think it unlikely that he ever penned a line of it. It is a statement of the instructions necessary to be given by the Assembly to Benjamin Franklin upon his appointment as agent of the province, "to solicit and transact the affairs thereof in Great Britain." The Report was submitted to the Correction of the House by Joseph Fox, Thomas Leech, John Hughes, Joseph Galloway, William Masters, Joseph Gibbons, and Thomas Yorke. It undoubtedly reflects the opinions of Franklin, and it may have been directly inspired by him. Benjamin Vaughan, who was of Franklin's counsel in the whole course of his life, printed it in his edition of the Works of Franklin. It is reprinted here because of its historical and biographical importance.

A. H. S.

CONTENTS

VOLUME III

NO. PAGE
103. To Jared Eliot. February 13, 1750 1
104. To Mrs. Abiah Franklin. April 12, 1750 3
105. To William Strahan. June 2, 1750 5
106. To Cadwallader Colden. June 28, 1750 7
107. Preface to Poor Richard Improved. July 30, 1750 . . 9
108. To Samuel Johnson, D.D. August 9, 1750 . . . 12
109. To Samuel Johnson, D.D. August 23, 1750 . . . 16
110. To Samuel Johnson, D.D. September 13, 1750 . . 19
111. To Samuel Johnson, D.D. October 25, 1750 . . . 20
112. Idea of the English School. October, 1750 . . . 21
113. To Jared Eliot. October 25, 1750 30
114. To a Friend in Boston. December 25, 1750 . . . 32
115. To Cadwallader Colden. 1751 34
116. To William Strahan. February 4, 1751 39
117. To James Parker. March 20, 1751 40
118. Exporting of Felons to the Colonies. May 9, 1751 . . 45
119. To Peter Collinson. May 21, 1751 48
120. To William Strahan. June 28, 1751 51
121. To James Bowdoin. September 5, 1751 52
122. To Jared Eliot. September 12, 1751 52
123. To William Strahan. September 22, 1751 56
124. To Mrs. Jane Mecom. October 24, 1751 57
125. To Susanna Wright. November 21, 1751 57
126. To Jared Eliot. December 10, 1751 58
127. To Jared Eliot. December 24, 1751 60
128. To Samuel Johnson, D.D. December 24, 1751 . . . 61
129. Observations concerning the Increase of Mankind. 1751 . 63
130. To James Bowdoin. January 24, 1752 73
131. To Jared Eliot. February 4, 1752 77
132. To E. Kinnersley. March 2, 1752 78
133. To E. Kinnersley. March 16, 1752 79

NO. PAGE
134. To William Strahan. March 21, 1752 81
135. To Cadwallader Colden. April 23, 1752 82
136. To Cadwallader Colden. May 14, 1752 87
137. To Edward and Jane Mecom. May 21, 1752 . . . 89
138. To William Strahan. June 20, 1752 89
139. To Samuel Johnson, D.D. July 2, 1752 91
140. To Susanna Wright. July 11, 1752 93
141. To William Strahan. August 8, 1752 94
142. To John Perkins. August 13, 1752 95
143. To Cadwallader Colden. September 14, 1752 . . . 97
144. To Peter Collinson. October 19, 1752 99
145. Preface to Poor Richard Improved. [October] 1752 . . 100
146. To Edward and Jane Mecom. November 14, 1752 . . 101
147. To John Franklin. December 8, 1752 103
148. To Cadwallader Colden. January 1, 1753 105
149. To John Perkins. February 4, 1753 107
150. To James Bowdoin. February 28, 1753 122
151. To Jared Eliot. April 12, 1753 123
152. To James Bowdoin. April 12, 1753 125
153. To William Smith. April 19, 1753 126
154. To Jared Eliot. May 3, 1753 128
155. To William Smith. May 3, 1753 131
156. To Richard Jackson. May 5, 1753 133
157. To William Strahan. May 9, 1753 142
158. To Joseph Huey. June 6, 1753 143
159. To Peter Collinson. June 26, 1753 146
160. To William Franklin. July 23, 1753 147
161. To Peter Collinson. September, 1753 148
162. To James Bowdoin. October 18, 1753 163
163. To Cadwallader Colden. October 25, 1753 . . . 163
164. To William Strahan. October 27, 1753 165
165. Preface to Poor Richard, 1754. [October] 1753 . . 167
166. To Thomas Clap. November 8, 1753 169
167. To Peter Collinson. November 23, 1753 171
168. Proposal of an Experiment to measure the Time taken up by an Electric Spark in moving through any given Space. By James Alexander, of New York; with Franklin's Answer. 1753 171
169. Physical and Meteorological Observations, Conjectures, and Suppositions. 1753 175

NO. PAGE

170. Meteorological Observations. November, 1753 . . . 186
171. To William Smith. November 27, 1753 189
172. To Cadwallader Colden. December 6, 1753 190
173. To James Bowdoin. December 13, 1753 191
174. To Peter Collinson. April 18, 1754 193
175. To William Strahan. April 18, 1754 195
176. Papers relating to a Plan of Union of the Colonies. June, 1754 197
177. To Cadwallader Colden. August 30, 1754 227
178. To Richard Peters. September 17, 1754 230
179. Three Letters to Governor Shirley. December 17, 18, 22, 1754 231
180. To Peter Collinson. December 29, 1754 241
181. To James Parker. March 1, 1755 243
182. To Miss Catherine Ray. March 4, 1755 245
183. Electrical Experiments. March 14, 1755 247
184. To John Lining. March 18, 1755 252
185. To James Wright. June 26, 1755 260
186. To Miss Susanna Wright. [June] 1755 261
187. To Peter Collinson. June 26, 1755 262
188. To M. Dalibard. June 29, 1755 269
189. To James Wright. July 3, 1755 272
190. To Peter Collinson. August 25, 1755 273
191. To Peter Collinson. August 27, 1755 276
192. To Jared Eliot. August 31, 1755 279
193. To Jared Eliot. September 1, 1755 281
194. To Miss Catherine Ray. September 11, 1755 . . . 282
195. To John Hancock. September 11, 1755 285
196. To William Strahan. October 7, 1755 286
197. To Miss Catherine Ray. October 16, 1755 . . . 288
198. To [Sir] William Johnson. October 16, 1755 . . . 289
199. To Colonel Hunter. October 16, 1755 290
200. To William Shirley. October 23, 1755 290
201. To Richard Patridge. October 25, 1755 292
202. Plan for saving One Hundred Thousand Pounds. [October] 1755 293
203. To James Read. November 2, 1755 295
204. An Act for the better ordering and regulating such as are willing and desirous to be united for military purposes in Pensylvania. November 25, 1755 296

NO. PAGE

205. To William Strahan. November 27, 1755 302
206. To William Parsons. December 5, 1755 304
207. To William Parsons. December 15, 1755 306
208. A Dialogue between X, Y, and Z concerning the Present State of Affairs in Pensylvania. December, 1755 . . 307
209. To Mrs. Deborah Franklin. December 27, 1755 . . 320
210. To Captain Vanetta. January 12, 1756 321
211. To Mrs. Deborah Franklin. January 15, 1756 . . . 323
212. To Mrs. Deborah Franklin. January 25, 1756 . . . 324
213. To Robert Hunter Morris, Governor of Pennsylvania. January 26, 1756 325
214. To Mrs. Deborah Franklin. January 30, 1756 . . . 326
215. To Mrs. Deborah Franklin. January 31, 1756 . . . 327
216. To Mrs. Jane Mecom. February 12, 1756 328
217. To Miss E. Hubbard. February 23, 1756 329
218. To Timothy Horsefield. March 1, 1756 330
219. To Mrs. Deborah Franklin. March 21, 1756 . . . 331
220. To Mrs. Deborah Franklin. March 30, 1756 . . . 332
221. To Mrs. Jane Mecom. June 28, 1756 333
222. To William Parsons. June 28, 1756 336
223. To William Strahan. July 2, 1756 337
224. To Rev. George Whitefield. July 2, 1756 338
225. To William Strahan. July 27, 1756 340
226. To Thomas Pownall. August 19, 1756 341
227. To George Washington. August 19, 1756 . . . 343
228. To Miss Catherine Ray. August 26, 1756 344
229. To Peter Collinson. November 5, 1756 345
230. To Mrs. Deborah Franklin. November 13, 1756 . . 350
231. To Peter Collinson. November 22, 1756 351
232. To Peter Collinson. December 19, 1756 352
233. To Edward and Jane Mecom. December 30, 1756 . . 356
234. To William Strahan. December 31, 1756 357
235. Plan for settling two Western Counties in North America, with Reasons for the Plan. 1756 [1754] . . . 358
236. To Peter Collinson. January 31, 1757 366
237. To William Strahan. January 31, 1757 366
238. To Robert Charles. February 1, 1757 367
239. To Mrs. Jane Mecom. February 21, 1757 369
240. Report of the Committee of Aggrievances of the Assembly of Pennsylvania. February 22, 1757 370

NO. PAGE
241. To William Parsons. February 22, 1757 377
242. To Miss Catherine Ray. March 3, 1757 378
243. To Mrs. Deborah Franklin. April 5, 1757 378
244. To Samuel Hazard. April 11, 1757 379
245. To Dr. Alexander Garden. April 14, 1757 . . . 381
246. To Colonel Henry Bouquet. April 14, 1757 . . . 382
247. To John Lining. April 14, 1757 383
248. To Mrs. Jane Mecom. April 19, 1757 391
249. To Mrs. Deborah Franklin. April 29, 1757 . . . 392
250. To Mrs. Jane Mecom. May 21, 1757 393
251. To Mrs. Deborah Franklin. May 27, 1757 . . . 395
252. To Isaac Norris. May 30, 1757 397
253. To Mrs. Jane Mecom. May 30, 1757 402
254. To Mrs. Deborah Franklin. June 2, 1757 405
255. A Striking Sun Dial 406
256. The Way to Wealth (Preface to Poor Richard Improved), 1758. July 7, 1757 407
257. To Mrs. Deborah Franklin. July 27, 1757 . . . 419
258. To Mrs. Deborah Franklin. November 22, 1757 . . 419
259. To [Sir] John Pringle. December 21, 1757 . . . 425
260. To [Sir] John Pringle. January 6, 1758 427
261. To Mrs. Deborah Franklin. January 14, 1758 . . . 428
262. To Mrs. Deborah Franklin. January 21, 1758 . . . 429
263. To Mrs. Deborah Franklin. February 19, 1758 . . . 430
264. To Thomas Hubbard. April 28, 1758 435
265. To Mrs. Deborah Franklin. June 10, 1758 438
266. To the Speaker and Committee of the Pennsylvania Assembly. June 10, 1758 443
267. To John Lining. June 17, 1758 446
268. To Mrs. Deborah Franklin. September 6, 1758 . . 451
269. To Isaac Norris. September 16, 1758 454
270. To Hugh Roberts. September 16, 1758 456
271. To Mrs. Jane Mecom. September 16, 1758 . . . 458
272. To James Bowdoin. December 2, 1758 461
273. To Israel Pemberton. March 19, 1759 470
274. To David Hall. April 8, 1759 473
275. To Miss Mary Stevenson. May 4, 1759 478
276. To Dr. William Heberden. June 7, 1759 479
277. To James Wright. July 9, 1759 483

TABLE OF ABBREVIATIONS

A. P. S.	American Philosophical Society.
B. M.	British Museum.
B. N.	Bibliothèque Nationale.
D. S. W.	Department of State, Washington.
H.	Harvard University.
L. C.	Library of Congress.
L. L.	Lenox Library.
Lans.	Lansdowne House.
M. H. S.	Massachusetts Historical Society.
P. C.	Private Collection.
P. H. S.	Pennsylvania Historical Society.
P. R. O.	Public Record Office.
P. R. O. A. W. I.	Public Record Office: America and West Indies.
P. A. E. E. U.	Paris Departement des Affaires Etrangères, — Etats-Unis.
U. of P.	University of Pennsylvania.
Y.	Yale University.
B.	Bigelow.
F.	Benjamin Franklin.
S.	Sparks.
V.	Benjamin Vaughan.
W. T. F.	W. T. Franklin.

Franklin's Mss. exist in several forms. He made a rough draft of every letter that he wrote; he then made a clean copy to send away, and often retained a letter-press copy. To indicate the state of the document, the following abbreviations are used: d. = draft, trans. = transcript, l. p. = letter-press copy.

103. TO JARED ELIOT[1]

Philadelphia, February 13, 1750.

DEAR SIR,

. . . .

I doubt not but those mountains, which you mention, contain valuable mines, which time will discover. I know of but one valuable copper mine in this country, which is that of Schuyler's in the Jerseys. This yields good copper, and has turned out vast wealth to the owners. I was at it last fall, but they were not then at work. The water is grown too hard for them, and they waited for a fire-engine from England to drain their pits. I suppose they will have that at work next summer; it costs them one thousand pounds sterling.

Colonel John Schuyler, one of the owners, has a deer park five miles round, fenced with cedar logs, five logs high, with blocks of wood between. It contains a variety of land, high and low, woodland and clear. There are a great many deer in it; and he expects in a few years to be able to kill two hundred head a year, which will be a very profitable thing. He has likewise six hundred acres of meadow, all within bank. The mine is not far from Passaic Falls, which I went also to see. They are very curious; the water falls seventy feet perpendicularly, as we were told; but we had nothing to measure with.[1]

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[1] First printed by Sparks, who obtained the letter from Mr. T. F. Davies. I have omitted the first two paragraphs of this letter because they are identical with the contents of the letter to Alexander Small, May 12, 1760. See also Vol. I, pp. 57–59. — ED.

It will be agreeable to you to hear that our subscription goes on with great success, and we suppose will exceed five thousand pounds of our currency. We have bought for the Academy the house that was built for itinerant preaching, which stands on a large lot of ground capable of receiving more buildings to lodge the scholars, if it should come to be a regular college. The house is one hundred feet long and seventy wide, built of brick, very strong, and sufficiently high for three lofty stories.[2] I suppose the

---

[1] "From hence [Passaic Falls] I returned, and in my way crossed over the river to colonel John Schuyler's copper-mines, where there is a very rich vein of ore, and a fire-engine erected upon common principles.

"After this I went down two miles farther to the park and gardens of this gentleman's brother, colonel Peter Schuyler. In the gardens is a very large collection of citrons, oranges, limes, lemons, balsams of Peru, aloes, pomegranates, and other tropical plants; and in the park I saw several American and English deer, and three or four elks or moose-deer." "Travels through the Middle Settlements in North America in the years 1759 and 1760. By the Rev. Andrew Burnaby, London 1798, edition the Third." — ED.

[2] A LETTER FROM THE REV. MR. WHITEFIELD TO A FRIEND AT NEW-YORK

Salem, Novemb. 20. 1740

MY DEAR FRIEND,

According to my Promise, I now snatch a few Moments to send you a short Account of the House lately erected at Philadelphia. I was pleasingly surprized at the Sight of it. It is 100 Feet long, and 70 Feet wide, and now just ready to be covered. The Footsteps of Providence have been very discernable both in the Foundation and Superstructure. GOD must have the sole Glory. As I am chosen one of the Trustees, and have promised to procure a Master and Mistress for the first Scholars, I think it my Duty to make what Interest I can towards carrying on so good a Work. The House is intended for Publick Worship, and a Charity School: None but orthodox experimental Ministers are to preach in it, and such are to have free Liberty, of whatever Denomination. I know you are ready to every good Work; if you can get any Subscription for this Purpose you will do well. The Man-building did not cost less than two thousand pounds; but we bought it for seven hundred and seventy-five pounds, eighteen shillings, eleven pence, and three farthings; though it will cost us three and perhaps four hundred more to make the partitions and floors, and fit up the rooms. I send you enclosed a copy of our present constitutions; but we expect a charter from our Proprietaries this summer, when they may probably receive considerable alterations. The paper admonishes me that it is time to conclude.

I am, Sir,

Your obliged humble servant,

B. FRANKLIN.

---

104. TO MRS. ABIAH FRANKLIN[1]

Philad^{a} April 12. 1750

HONOURED MOTHER,

We received your kind Letter of the 2d Instant, and we are glad to hear you still enjoy such a Measure of Health, notwithstanding your great Age. We read your Writing very easily. I never met with a Word in your Letters but what I could readily understand; for, tho' the Hand is not always the best, the Sense makes every thing plain. My Leg, which you inquire after, is now quite well. I

---

agers, as at the Beginning, so now also, depend on God for future Supplies. I have preached in this House several Times; The Lord was with us of a Truth: Let this encourage you to promote it with all your Might. That God may herein make you successful, is the hearty Prayer of

Your affectionate Friend and Servant

GEORGE WHITEFIELD.

From *The Pennsylvania Gazette,* December 4, 1740. — ED.

[1] The original of this letter is in the Boston Athenæum, where it was deposited by William Hales, who died August 4, 1849. — ED.

shall keep those Servants; but the Man not in my own house. I have hired him out to the Man, that takes care of my Dutch Printing-Office, who agrees to keep him in Victuals and Clothes, and to pay me a Dollar a Week for his Work. His wife, since that Affair, behaves exceeding well; but we conclude to sell them both the first good Opportunity, for we do not like Negro Servants. We got again about half what we lost.

As to your Grandchildren, Will is now nineteen years of age, a tall proper Youth, and much of a Beau. He acquired a Habit of Idleness on the Expedition,[1] but begins of late to apply himself to Business, and I hope will become an industrious Man. He imagin'd his Father had got enough for him, but I have assured him that I intend to spend what little I have myself, if it please God that I live long enough; and, as he by no means wants Sense, he can see by my going on, that I am like to be as good as my Word.

Sally grows a fine Girl, and is extreamly industrious with her Needle, and delights in her Book. She is of a most affectionate Temper, and perfectly dutiful and obliging to her Parents, and to all. Perhaps I flatter myself too much, but I have Hopes that she will prove an ingenious, sensible, notable, and worthy Woman, like her aunt Jenny. She goes now to the Dancing-School.

For my own Part, at present, I pass my Time agreeably enough. I enjoy, thro' Mercy, a tolerable Share of Health. I read a great deal, ride a little, do a little Business for myself, more for others, retire when I can, and go into

---

[1] His son, William, had been an officer in the Pennsylvania forces raised for an expedition against Canada, in the year 1746. — Ed.

Company when I please; so the Years roll round, and the last will come; when I would rather have it said, *He lived Usefully*, than *He died Rich.*

Cousins Josiah and Sally are well, and I believe will do well, for they are an industrious saving young Couple; but they want a little more Stock to go on smoothly with their Business.

My Love to Brother and Sister Mecom, and their Children, and to all my Relations in general. I am your dutiful Son,

B. FRANKLIN.

---

105. TO WILLIAM STRAHAN[1] (P. C.)

Philadelphia, June 2, 1750.

DEAR SIR: — The person from whom you had the power of attorney to receive a legacy, was born in Holland, and at first called *Aletta* Crell; but not being christened when the family came to live among the English in America, she was baptized by the name of *Mary*. This change of name probably might be unknown to the testator, as it happened in Carolina, and so the legacy might be left her by her first name Aletta. She has wrote it on a piece of paper, which I enclose, and desires you would take the trouble of acquainting the gentleman with these particulars, which she thinks may induce him to pay the money.

I am glad to understand by the papers that the Parliament has provided for paying off the debts due on the Canada expedition. I suppose my son's pay is now in your hands.

---

[1] First printed by Mr. Bigelow, Vol. X, p. 255. The original was then in the possession of Mr. W. R. Benjamin. — ED.

I am willing to allow 6 per cent. (the rate of interest here), for the delay; or more, if the disappointment has been a greater loss to you. I hope the £50 bill I lately sent you is come to hand and paid.

The description you give of the company and manner of living in Scotland would almost tempt one to remove thither. Your sentiments of the general foible of mankind in the pursuit of wealth to no end are expressed in a manner that gave me great pleasure in reading. They are extremely just; at least they are perfectly agreeable to mine. But London citizens, they say, are ambitious of what they call *dying worth* a great sum. The very notion seems to me absurd; and just the same as if a man should run in debt for 1,000 superfluities, to the end that when he should be stripped of all, and imprisoned by his creditors, it might be said, he *broke worth* a great sum. I imagine that what we have above what we can use, is not properly *ours*, though we possess it, and that the rich man who *must die*, was no more *worth* what he leaves, than the debtor who *must pay*.

I am glad to hear so good a character of my son-in-law.[1] Please to acquaint him that his spouse grows finely and will probably have an agreeable person. That with the best natural disposition in the world, she discovers daily the seeds and tokens of industry, economy, and, in short, of every female virtue, which her parents will endeavour to cultivate for him; and if the success answers their fond wishes, and expectations, she will, in the true sense of the word, be *worth* a great deal of money, and consequently a great fortune.

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[1] Half seriously and half in jest Franklin sometimes referred in his letters to the prospective marriage of his daughter to Strahan's eldest son, William (1740–1781), who carried on a printing business for some years at Snow Hill. — ED.

I suppose my wife writes to Mrs. Strahan. Our friend, Mr. Hall, is well, and manages perfectly to my satisfaction. I cannot tell how to accept your repeated thanks for services you think I have done to him, when I continually feel myself obliged to him, and to you for sending him. I sincerely wish all happiness to you and yours, and, am dear sir, your most obliged humble servant,

B. FRANKLIN.

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106. TO CADWALLADER COLDEN[1] (L. C.)

Philadelphia, June 28, 1750.

SIR,

I wrote a line to you last post, and sent you some electrical observations and experiments. You formerly had those papers of mine, out of which something has been taken by Mr. Watson,[2] and inserted in the Transactions. If you have forgot the contents of those papers, I am afraid some things in that I last sent you will be hardly understood, as they depend on what went before. I send you herewith my essay towards a new hypothesis of the cause and effects of lightning, &c., of which you may remember some hints in my first electrical minutes. I sent this essay above a twelvemonth since to Dr. Mitchel in London,

[1] This letter was first published in *The American Medical and Philosophical Register* for January, 1812. It is here printed from a transcript in the Library of Congress. — ED.

[2] Mr. Watson (1715-1787) became Sir William Watson in 1786. He was a Doctor of Physic of the University of Halle. In 1741 he became a Fellow of the Royal Society and contributed about sixty papers to the Philosophical Transactions. — ED.

and have since heard nothing of it, which makes me doubt of its getting to hand. In some late experiments, I have not only frequently fired unwarmed spirits by the electrical stroke, but have even melted small quantities of copper, silver, and gold; and not only melted, but vitrified them, so as to incorporate them with common glass; and this without any sensible heat, which strengthens my supposition, that the melting of metals by lightning may be a cold fusion. Of these experiments I shall shortly write a particular account. I wrote to Mr. Collinson, on reading in the Transactions the accounts, from Italy and Germany, of giving purges, transferring odors, &c. with the electrical effluvia, that I was persuaded they were not true. He since informs me, that Abbé Nollet, of Paris, who had tried the experiments without success, was lately at the pains to make a journey to Turin, Bologna, and Venice, to inquire into the facts, and see the experiments repeated, imagining they had there some knacks of operating that he was unacquainted with; but, to his great disappointment, found little or no satisfaction; the gentlemen there having been too premature in publishing their imaginations and expectations for real experiments. Please to return me the papers when you have perused them.

My good old friend, Mr. Logan, being about three months since struck with a palsy, continues speechless, though he knows people, and seems in some degree to retain his memory and understanding. I fear he will not recover. Mr. Kalm[1] is gone towards Canada again, and Mr.

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[1] Peter Kalm, a Swedish naturalist (1715–1779), author of "Travels into North America; containing its natural history, and a circumstantial account of its Plantations and Agriculture in general. . . . By Peter Kalm, Professor

Evans[1] is about to take a journey to Lake Erie, which he intends next week. Mr. Bartram continues well and hearty. I thank you for what you write concerning celestial observations. We are going on with our building for the Academy, and propose to have an observatory on the top; and, as we shall have a mathematical professor, I doubt not but we shall soon be able to send you some observations accurately made.

I am, with great esteem and respect, &c.

B. FRANKLIN.

P. S. If you think it would be agreeable to Mr. Alexander,[2] or any other friend in New York, to peruse these electrical papers, you may return them to me through his hands.

107. PREFACE TO POOR RICHARD IMPROVED, 1751

(P. H. S.)

COURTEOUS READER

Astrology is one of the most ancient Sciences, had in high Esteem of old, by the Wise and Great. Formerly, no Prince would make War or Peace, nor any General fight a Battle, in short, no important Affair was undertaken without first consulting an *Astrologer*, who examined the Aspects and Configurations of the heavenly Bodies, and

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[at Abo]. Translated into English by John Reinhold Forster, F.A.S., London, 1771." — ED.

[1] Lewis Evans, a surveyor in Pennsylvania, author of "Geographical, Historical, Political, Philosophical, and Mechanical Essays, Phila. 1756," of some other tracts, and of a Map of the Middle Colonies. — ED.

[2] James Alexander (1690-1756), an eminent lawyer and scholar, participated in the founding of the American Philosophical Society. — ED.

mark'd the *lucky Hour.* Now the noble Art (more Shame to the Age we live in!) is dwindled into Contempt; the Great neglect us, Empires make Leagues, and Parliaments Laws, without advising with us; and scarce any other Use is made of our learned Labours, than to find the best Time of cutting Corns, or gelding Pigs, — This Mischief we owe in a great Measure to ourselves: The ignorant Herd of Mankind, had they not been encourag'd to it by some of us, would never have dared to depreciate our sacred Dictates; but *Urania* has been betray'd by her own Sons; those whom she had favour'd with the greatest Skill in her divine Art, the most eminent Astronomers among the Moderns, the *Newtons*, *Halleys*, and *Whistons*, have wantonly contemn'd and abus'd her, contrary to the Light of their own Consciences.

Of these, only the last nam'd, *Whiston*, has liv'd to repent, and speak his Mind honestly. In his former Works he had treated *Judiciary Astrology* as a Chimera, and asserted, That not only the fixed Stars, but the Planets (Sun and Moon excepted) were at so immense a Distance, as to be incapable of any Influence on this Earth, and consequently nothing could be foretold from their Positions: but now in the Memoirs of his Life,[1] publish'd 1749, in the 82^{d} Year of his Age, he foretels, Page 607, the sudden Destruction of the *Turkish* Empire, and of the House of *Austria*, *German* Emperors, etc and *Popes* of *Rome;* the Restoration of the *Jews*, and Commencement of the *Millennium;* all by the Year 1766; and this not only from Scripture Prophecies; but (take his own Words) — "From the remarkable *astro-*

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[1] "Memoirs of the Life and Writings of Mr. William Whiston, written by himself, London: 1749," Vol. II, p. 607. — Ed.

nomical Signals that are to Alarm Mankind of what is coming; viz. The *Northern Lights* since 1715; the six Comets at the Protestant Reformation in four Years, 1530, 1531, 1533, 1534, compar'd with the seven Comets already seen in these last eleven Years, 1737, 1739, 1742, 1743, 1744, 1746 and 1748. — From the great Annular Eclipse of the Sun, *July* 14, 1748, whose Center pass'd thro' all the four Monarchies, from *Scotland* to the *East Indies.* — From the Occultation of the *Pleiades* by the Moon, each periodical Month, after the Eclipse last *July*, for above three Years, visible to the whole *Roman* Empire; as there was a like Occultation of the *Hyades* from A. 590 to A. 595, for six Years foretold by *Isaiah.* — From the Transit of *Mercury* over the *Sun*, April 25, 1753, which will be visible thro' that Empire. — From the Comet of A.D. 1456, 1531, 1607 and 1682 which will appear again about 1757 ending, or 1758 beginning, and will also be visible thro' that Empire. — From the Transit of *Venus* over the *Sun*, *May* 26, 1761, which will be visible over the same Empire: And lastly from the annular Eclipse of the *Sun*, *March* 11, 1764, which will be visible over the same Empire." From these *Astronomical Signs* he foretels these great Events, That within 16 Years from this Time, "The *Millennium* or 1000 Years Reign of Christ shall begin, there shall be *a new Heavens*, and *a new Earth;* there shall be no more an Infidel in *Christendom*, Page 398, nor a Gaming-Table at Tunbridge!" — When these Predictions are accomplished, what glorious Proofs they will be of the Truth of our Art? And if they happen to fail, there is no doubt but so profound an Astronomer as Mr. *Whiston*, will be able to see *other* Signs in the Heavens, foreshowing that the Conversion of Infidels was to be postponed, and the *Millennium* adjourn'd. After these great Things can any Man doubt our being capable of predicting a little Rain or Sun-shine?

Reader, Farewell, and make the best Use of your Years and your Almanacks, for you see, that according to *Whiston*, you may have at most, but sixteen more of them.

R. SAUNDERS.

Patowmack, July 30, 1750.

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108. TO SAMUEL JOHNSON, D.D.[1]

Philadelphia, Aug. 9, 1750.

REV. SIR, — At my return home I found your favour of June the 28th, with the Bishop of Cloyne's[2] letter inclosed, which I will take care of, and beg leave to keep a little longer.

Mr. Francis, our Attorney General, who was with me at your house, from the conversation then had with you, and reading some of your pieces, has conceived an esteem for you equal to mine. The character we have given of you to the other trustees, and the sight of your letters relating to the academy, has made them very desirous of engaging you in that design, as a person whose experience and judgment would be of great use in forming rules and establishing good methods in the beginning, and whose name for learning would give it a reputation. We only lament, that in the infant state of our funds, we cannot make you an offer equal to your merit. But as the view of being useful has most weight with generous and benevolent minds, and in this affair you may do great service not only to the present but to future generations, I flatter myself sometimes that if you were here, and saw things as they are, and conversed a little with our people, you might be prevailed with to remove. I would therefore earnestly press you to make us a visit as soon as you conveniently can; and in the mean time let me represent to you some of the circumstances as they appear to me.

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[1] From "Life and Correspondence of Samuel Johnson, D.D.," by E. Edwards Beardsley, 1874, p. 157. — ED.

[2] George Berkeley. — ED.

1. The Trustees of the Academy are applying for a charter, which will give an opportunity for improving and modeling our Constitution in such a manner as, when we have your advice, shall appear best. I suppose we shall have power to form a regular college.

2. If you would undertake the management of the English Education, I am satisfied the trustees would, on your account, make the salary £100 sterling, (they have already voted £150 currency which is not far from it), and pay the charge of your removal. Your son might also be employed as tutor at £60 or perhaps £70 per annum.

3. It has been long observed, that our church is not sufficient to accommodate near the number of people who would willingly have seats there. The buildings increase very fast towards the south end of the town, and many of the principal merchants now live there; which being at a considerable distance from the present church, people begin to talk much of building another, and ground has been offered as a gift for that purpose. The Trustees of the Academy are three fourths of them members of the Church of England, and the rest men of moderate principles. They have reserved in the building a large hall for occasional preaching, public lectures, orations, etc.; it is 70 feet by 60, furnished with a handsome pulpit, seats, etc. In this Mr. Tennent collected

his congregation who are now building him a meeting house. In the same place, by giving now and then a lecture, you might, with equal ease, collect a congregation that would in a short time build you a church, if it should be agreeable to you.

In the mean time, I imagine you will receive something considerable yearly, arising from marriages and christenings in the best families, etc., not to mention presents that are not unfrequent from a wealthy people to a minister they like; and though the whole may not amount to more than a due support, yet I think it will be a comfortable one. And when you are well settled in a church of your own, your son may be qualified by years and experience to succeed you in the Academy; or if you rather choose to continue in the Academy, your son might probably be fixed in the Church.

These are my private sentiments which I have communicated only to Mr. Francis, who entirely agrees with me. I acquainted the trustees that I would write to you, but could give them no dependence that you would be prevailed on to remove. They will, however, treat with no other till I have your answer.

You will see by our newspaper, which I inclose, that the Corporation of this city have voted £300 down and £100 a year out of their revenues to the Trustees of the Academy. As they are a perpetual body, choosing their own successors, and not so subject to be changed by the caprice of a governor or of the people, and as 18 of the members (some of the most leading) are of the trustees, we look on this donation to be as good as so much real estate; being confident it will be continued as long as it is well applied, and even increased, if there should be occasion. We have now near £5,000 subscribed, and expect some considerable sums besides may be procured from the merchants of London trading hither. And as we are in the centre of the Colonies, a healthy place, with plenty of provisions, we suppose a good Academy here may draw numbers of youths for education from the neighbouring Colonies, and even from the West Indies.

I will shortly print proposals for publishing your pieces by subscription, and disperse them among my friends along the continent. My compliments to Mrs. Johnson and your son; and Mr. and Mrs. Walker your good neighbours.

I am, with great esteem and respect, Sir,

Your most humble servant,
B. Franklin.

P. S. There are some other things best treated of when we have the pleasure of seeing you. It begins now to be pleasant travelling. I wish you would conclude to visit us in the next month at farthest. Whether the journey produce the effect we desire or not, it shall be no expense to you.

109. TO SAMUEL JOHNSON, D.D.[1]

Philadelphia, Aug. 23, 1750.

DEAR SIR,

We received your favour of the 16th inst. Mr. Peters[2] will hardly have time to write to you per this post, and I must be short. Mr. Francis spent the last evening with me, and we were all glad to hear, that you seriously meditate a visit after the middle of next month, and that you will inform us by a line when to expect you. We drank your health and Mrs. Johnson's, remembering your kind entertainment of us at Stratford.

I think with you, that nothing is of more importance for the public weal, than to form and train up youth in wisdom and virtue. Wise and good men are, in my opinion, the *strength* of a state far more so than riches or arms, which, under the management of Ignorance and Wickedness, often draw on destruction, instead of providing for the safety of a people. And though the culture bestowed on *many* should be successful only with a *few*, yet the influence of those few and the service in their power may be very great. Even a single woman, that was wise, by her wisdom saved a city.

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[1] This letter was first printed in the PORT FOLIO, in August, 1809. The following notice is there prefixed to it. "The following very curious letter, has, we believe, never before been published. It is addressed by Dr. Franklin to Dr. Samuel Johnson the first President of King's (now Columbia) College, New York, the venerable father of the Episcopal Church of Connecticut, and the apostle of sound learning and elegant literature in New England. It appears to have been written at the time of the first establishment of the College of Philadelphia, an offer of the presidency of which institution had been offered to Dr. Johnson. This offer he declined on account of a similar and more advantageous offer from New York. A very well written life of Dr. Johnson, by Dr. Chandler, was published some years ago [1805], containing, besides many very curious anecdotes of the history and early literature of our country, a very interesting series of correspondence between Dr. Johnson and Archbishop Secker, and Bishops Lowth, Berkely, and Gibson, and several other very distinguished dignitaries of the Church of England." — ED.

[2] Richard Peters (1704–1775) became President of the Board of Trustees of the Academy (now The University of Pennsylvania) in 1756. — ED.

I think also, that general virtue is more probably to be expected and obtained from the *education* of youth, than from the *exhortation* of adult persons; bad habits and vices of the mind being, like diseases of the body, more easily prevented than cured. I think, moreover, that talents for the education of youth are the gift of God; and that he on whom they are bestowed, whenever a way is opened for the use of them, is as strongly *called* as if he heard a voice from heaven; nothing more surely pointing out duty in a public service, than *ability* and *opportunity* of performing it.

I have not yet discoursed with Dr. Jenney[1] concerning your removal hither. You have reason, I own, to doubt whether your coming on the foot I proposed would not be disagreeable to him, though I think it ought not: for should his *particular interest* be somewhat affected by it, that ought not to stand in competition with the *general good;* especially as it cannot be *much* affected, he being old, and rich, and without children. I will however learn his sentiments before the next post. But, whatever influence they might have on your determinations about removing, they need have none on your intention of visiting; and if you favour us with the visit, it is not necessary that you should previously write to him to learn his dispositions about your removal; since you will see him, and when we are all together, those things may be better settled in conversation than by letters at a distance.

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[1] Rector of the United Churches of Christ Church and St. Peter's, in Philadelphia. — ED.

Your tenderness of the Church's peace is truly laudable; but, methinks, to build a new church in a growing place is not properly *dividing* but *multiplying;* and will really be the means of increasing the number of those, who worship God in that way. Many who cannot now be accommodated in the church, go to other places, or stay at home; and if we had another church, many who go to other places or stay at home, would go to church. I suppose the interest of the church has been far from suffering in Boston by the building of two churches there in my memory. I had for several years nailed against the wall of my house a pigeon-box, that would hold six pair; and, though they bred as fast as my neighbours' pigeons, I never had more than six pair, the old and strong driving out the young and weak, and obliging them to seek new habitations. At length I put up an additional box with apartments for entertaining twelve pair more; and it was soon filled with inhabitants, by the overflowing of my first box, and of others in the neighbourhood. This I take to be a parallel case with the building a new church here.

Your years I think are not so many as to be an objection of any weight, especially considering the vigour of your constitution. For the smallpox, if it should spread here, you might inoculate with great probability of safety; and I think that distemper generally more favourable here than farther northward. Your objection about the politeness of Philadelphia, and your imagined rusticity, is mere compliment; and your diffidence of yourself absolutely groundless.

My humble respects, if you please, to your brethren at the Commencement. I hope they will advise you to what is most for the good of the whole, and then I think they will advise you to remove hither. Please to tender my best respects and service to Mrs. Johnson and your son. I am, dear Sir, your obliged and affectionate humble servant,

B. FRANKLIN.

110. TO SAMUEL JOHNSON, D.D.[1]

Philadelphia, September 13, 1750.

DEAR SIR, — I am sorry to hear of your illness. If you have not been used to the fever-and-ague let me give you one caution. Don't imagine yourself thoroughly cured, and so omit the use of the bark too soon. Remember to take the preventing doses faithfully. If you were to continue taking a dose or two every day for two or three weeks after the fits have left you, 'twould not be amiss. If you take the powder mixed quick in a tea-cup of milk, 'tis no way disagreeable, but looks and even tastes like chocolate. 'Tis an old saying: That an ounce of prevention is worth a pound of cure, — and certainly a true one, with regard to the bark; a little of which will do more in preventing the fits than a great deal in removing them.

But if your health would permit I should not expect the pleasure of seeing you soon. The smallpox spreads apace, and is now in all quarters; yet as we have only children to have it, and the Doctors inoculate apace, I believe they will soon drive it through the town; so that you may possibly visit us with safety in the spring. In the mean time we should be glad to know the result you came to after consulting your brethren at the Commencement. Messrs. Peters and Francis have directed me on all occasions to present their compliments to you. Please to acquaint me if you propose to make any considerable additions to the "Ethics," that I may be able in the proposals to compute the bigness of the book.

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[1] From "Life and Correspondence of Samuel Johnson, D.D.," by E. Edwards Beardsley, 1874, p. 165. — ED.

I am, with sincere esteem and respect, dear Sir,

Your most obliged humble servant,

B. FRANKLIN.

Inclosed I return the good Bishop's[1] letter with thanks.

III. TO SAMUEL JOHNSON, D.D.[2] (P. C.)

Philada. Oct. 25. 1750.

REV. SIR, — Enclosed I return your *Noetica* as you desired, that you may add or alter what you think fit before it goes to the Press, in which I should be glad you would be as speedy as conveniently you can.

Since your Way to us is at present block'd up by the Spreading of the Small Pox among us, which (if you do not incline to inoculate) may be a perpetual Bar to your settling here, as we have it every 4 or 5 years, we must endeavor to make ourselves Amends, by obtaining as much of your Advice as we can at a Distance. The Trustees have put it on me, as I first mov'd the English Education here, to sketch out the idea of the English School; for which I am indeed very unfit, having neither been educated myself (except as a Tradesman) nor ever concern'd in educating others. However, I have done something towards it, which I now enclose to you; and beg you would either amend it, or (which perhaps will be easier to do) give us a Compleat Scheme of your own. I suppose the Boys in this School to be generally between 8 years of Age and 16, and that after they leave it they may have time to learn Merchandizing, Husbandry, or any other Profession (that does not need the learned Languages) by which they are to be supported thro' Life. If they have Estates already provided for them, they may continue longer, and make a farther Progress in Philosophy, &c. Mr. Francis and Mr. Peters are both well and desire always to be remembered to you. I have thoughts of taking a Ride to Elizabeth Town to see the Gentleman you recommend. I am with great Respect, Sir,

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[1] A letter to Dr. Johnson from Bishop Berkeley. — ED.

[2] Owned by Mr. Adrian H. Joline, of New York, and printed by him in "Meditations of an Autograph Collector," Harper and Brothers, 1902.

Your obliged hum. servant
B. FRANKLIN.

112. IDEA OF THE ENGLISH SCHOOL

SKETCH'D OUT FOR THE CONSIDERATION OF THE TRUSTEES OF THE PHILADELPHIA ACADEMY

[1]T is expected that every Scholar to be admitted into this School, be at least able to pronounce and divide the Syllables in Reading, and to write a legible Hand. None to be receiv'd that are under   Years of Age.

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[1] Printed as an appendix to "A Sermon on Education wherein some Account is given of the Academy, established in the City of Philadelphia. Preach'd at the Opening thereof, on the Seventh Day of *January*, 1750–1. By the *Reverend Mr.* Richard Peters. Philadelphia: Printed and Sold by B. Franklin, and D. Hall, at the *Post-Office*. MDCCLI."

FIRST OR LOWEST CLASS

Let the first Class learn the *English Grammar* Rules, and at the same time let particular Care be taken to improve them in *Orthography*. Perhaps the latter is best done by *Pairing* the Scholars, two of those nearest equal in their Spelling to be put together; let these strive for Victory, each propounding Ten Words every Day to the other to be spelt. He that spells truly most of the other's Words, is Victor for that Day; he that is Victor most Days in a Month, to obtain a Prize, a pretty neat Book of some Kind useful in their future Studies. This Method fixes the Attention of Children extreamly to the Orthography of Words, and makes them good Spellers very early. 'Tis a Shame for a Man to be so ignorant of this little Art, in his own Language, as to be perpetually confounding Words of like Sound and different Significations; the Consciousness of which Defect, makes some Men, otherwise of good Learning and Understanding, averse to Writing even a common Letter.

Let the Pieces read by the Scholars in this Class be short, such as *Croxall's* Fables, and little Stories. In giving the Lesson, let it be read to them; let the Meaning of the difficult Words in it be explained to them, and let them con it over by themselves before they are called to read to the Master, or Usher; who is to take particular Care that they do not read too fast, and that they duly observe the Stops and Pauses. A Vocabulary of the most usual difficult Words might be formed for their Use, with Explanations; and they might daily get a few of those Words and Explanations by Heart, which would a little exercise their Memories; or at least they might write a Number of them in a small

Book for the Purpose, which would help to fix the Meaning of those Words in their Minds, and at the same Time furnish every one with a little Dictionary for his future Use.

THE SECOND CLASS

to be taught Reading with Attention, and with proper Modulations of the Voice, according to the Sentiments and Subject.

Some short Pieces, not exceeding the Length of a *Spectator*, to be given this Class as Lessons (and some of the easier *Spectators* would be very suitable for the Purpose.) These Lessons might be given over Night as Tasks, the Scholars to study them against the Morning. Let it then be required of them to give an Account, first of the Parts of Speech, and Construction of one or two Sentences; this will oblige them to recur frequently to their Grammar, and fix its principal Rules in their Memory. Next of the *Intention* of the Writer, or the *Scope* of the Piece; the Meaning of each Sentence, and of every uncommon Word. This would early acquaint them with the Meaning and Force of Words, and give them that most necessary Habit, of Reading with Attention.

The Master then to read the Piece with the proper Modulations of Voice, due Emphasis, and suitable Action, where Action is required; and put the Youth on imitating his Manner.

Where the Author has us'd an Expression not the best, let it be pointed out; and let his Beauties be particularly remarked to the Youth.

Let the Lessons for Reading be varied, that the Youth may be made acquainted with good Stiles of all Kinds in Prose and Verse, and the proper Manner of reading each

Kind. Sometimes a well-told Story, a Piece of a Sermon, a General's Speech to his Soldiers, a Speech in a Tragedy, some Part of a Comedy, an Ode, a Satyr, a Letter, Blank Verse, Hudibrastick, Heroic, *&c.* But let such Lessons for Reading be chosen, as contain some useful Instruction, whereby the Understandings or Morals of the Youth, may at the same Time be improv'd.

It is requir'd that they should first study and understand the Lessons, before they are put upon reading them properly, to which End each Boy should have an *English* Dictionary, to help him over Difficulties. When our Boys read *English* to us, we are apt to imagine *they* understand what *they* read, because *we* do, and because 'tis their Mother Tongue. But they often read as Parrots speak, knowing little or nothing of the Meaning. And it is impossible a Reader should give the due Modulation to his Voice, and pronounce properly, unless his Understanding goes before his Tongue, and makes him Master of the Sentiment. Accustoming Boys to read aloud what they do not first understand, is the Cause of those even set Tones so common among Readers, which when they have once got a Habit of using, they find so difficult to correct: By which Means, among Fifty Readers, we scarcely find a good One. For want of good Reading, Pieces publish'd with a View to influence the Minds of Men for their own or the publick Benefit, lose Half their Force. Were there but one good Reader in a Neighbourhood, a publick Orator might be heard throughout a Nation with the same Advantages, and have the same Effect on his Audience, as if they stood within the Reach of his Voice.

THE THIRD CLASS

to be taught Speaking properly and gracefully, which is near of Kin to good Reading, and naturally follows it in the Studies of Youth. Let the Scholars of this Class begin with learning the Elements of Rhetoric from some short System, so as to be able to give an Account of the most usual Tropes and Figures. Let all their bad Habits of Speaking, all Offences against good Grammar, all corrupt or foreign Accents, and all improper Phrases, be pointed out to them. Short Speeches from the *Roman*, or other History, or from our *Parliamentary Debates*, might be got by heart, and deliver'd with the proper Action, *&c.* Speeches and Scenes in our best Tragedies and Comedies (avoiding every Thing that could injure the Morals of Youth) might likewise be got by Rote, and the Boys exercis'd in delivering or acting them; great Care being taken to form their Manner after the truest Models.

For their farther Improvement, and a little to vary their Studies, let them now begin to read *History*, after having got by Heart a short Table of the principal Epochas in Chronology. They may begin with *Rollin's Antient and Roman Histories*, and proceed at proper Hours as they go thro' the subsequent Classes, with the best Histories of our own Nation and Colonies. Let Emulation be excited among the Boys by giving, Weekly, little Prizes, or other small Encouragements to those who are able to give the best Account of what they have read, as to Times, Places, Names of Persons, *&c.* This will make them read with Attention, and imprint the History well in their Memories. In remarking on the History, the Master will have fine Opportunities of instilling Instruction of various Kinds, and improving the Morals as well as the Understandings of Youth.

The Natural and Mechanic History contain'd in the *Spectacle de la Nature*, might also be begun in this Class, and continued thro' the subsequent Classes by other Books of the same Kind: For next to the Knowledge of *Duty*, this Kind of Knowledge is certainly the most useful, as well as the most entertaining. The Merchant may thereby be enabled better to understand many Commodities in Trade; the Handicraftsman to improve his Business by new Instruments, Mixtures and Materials; and frequently Hints are given of new Manufactures, or new Methods of improving Land, that may be set on foot greatly to the Advantage of a Country.

THE FOURTH CLASS

to be taught Composition. Writing one's own Language well, is the next necessary Accomplishment after good Speaking. 'Tis the Writing-Master's Business to take Care that the Boys make fair Characters, and place them straight and even in the Lines: But to *form their Stile*, and even to take Care that the Stops and Capitals are properly disposed, is the Part of the *English* Master. The Boys should be put on Writing Letters to each other on any common Occurrences, and on various Subjects, imaginary Business, &c., containing little Stories, Accounts of their late Reading, what Parts of Authors please them, and why; Letters of Congratulation, of Compliment, of Request, of Thanks, of Recommendation, of Admonition, of Consolation, of Expostulation, Excuse, &c. In these they should be taught to express themselves clearly, concisely, and naturally, without affected Words or high-flown Phrases.

All their Letters to pass through the Master's Hand, who is to point out the Faults, advise the Corrections, and commend what he finds right. Some of the best Letters published in our own Language, as *Sir William Temple's*, those of *Pope*, and his Friends, and some others, might be set before the Youth as Models, their Beauties pointed out and explained by the Master, the Letters themselves transcrib'd by the Scholar.

Dr. Johnson's *Ethices Elementa*, or First Principles of Morality, may now be read by the Scholars, and explain'd by the Master, to lay a solid Foundation of Virtue and Piety in their Minds. And as this Class continues the Reading of History, let them now at proper Hours receive some farther Instruction in Chronology, and in that Part of Geography (from the Mathematical Master), which is necessary to understand the Maps and Globes. They should also be acquainted with the modern Names of the Places they find mention'd in antient Writers. The Exercises of good Reading, and proper Speaking, still continued at suitable Times.

FIFTH CLASS

To improve the Youth in *Composition*, they may now, besides continuing to write Letters, begin to write little Essays in Prose, and sometimes in Verse, not to make them Poets, but for this Reason, that nothing acquaints a Lad so speedily with Variety of Expression, as the Necessity of finding such Words and Phrases as will suit with the Measure, Sound, and Rhime of Verse, and at the same time well express the Sentiment. These Essays should all pass under the Master's Eye, who will point out their Faults, and put the Writer on correcting them. Where the Judgment is not ripe enough for forming new Essays, let the Sentiments of a *Spectator* be given, and requir'd to be cloath'd in a Scholar's own Words; or the Circumstances of some good Story, the Scholar to find Expression. Let them be put sometimes on abridging a Paragraph of a diffuse Author, sometimes on dilating or amplifying what is wrote more closely. And now let Dr. Johnson's *Noetica*, or First Principles of Human Knowledge, containing a Logic, or Art of Reasoning, &c. be read by the Youth, and the Difficulties that may occur to them be explained by the Master. The Reading of History, and the Exercises of good Reading and just Speaking, still continued.

SIXTH CLASS

In this Class, besides continuing the Studies of the preceding, in History, Rhetoric, Logic, Moral and Natural Philosophy, the best *English* Authors may be read and explain'd; as *Tillotson*, *Milton*, *Locke*, *Addison*, *Pope*, *Swift*, the higher Papers in the *Spectator* and *Guardian*, the best Translations of *Homer*, *Virgil*, and *Horace*, of *Telemachus*, *Travels of Cyrus*, &c.

Once a Year let there be publick Exercises in the Hall, the Trustees and Citizens present. Then let fine gilt Books be given as Prizes to such Boys as distinguish themselves and excel the others in any Branch of Learning, making three Degrees of Comparison; giving the best Prize to him that performs best; a less valuable One to him that comes up next to the best; and another to the third. Commendations, Encouragement and Advice to the rest; keeping up their Hopes, that by Industry they may excel another Time. The Names of those that obtain the Prizes to be yearly printed in a List.

The Hours of each Day are to be divided and dispos'd in such a Manner, as that some Classes may be with the Writing-Master, improving their Hands, others with the Mathematical Master, learning Arithmetick, Accompts, Geography, Use of the Globes, Drawing, Mechanicks, &c.; while the rest are in the *English* School, under the *English* Master's Care.

Thus instructed, Youth will come out of this School fitted for learning any Business, Calling or Profession, except such wherein Languages are required; and tho' unacquainted with any antient or foreign Tongue, they will be Masters of their own, which is of more immediate and general Use; and withal will have attain'd many other valuable Accomplishments; the Time usually spent in acquiring those Languages, often without Success, being here employ'd in laying such a Foundation of Knowledge and Ability, as, properly improv'd, may qualify them to pass thro' and execute the several Offices of civil Life, with Advantage and Reputation to themselves and Country.

B. F.[1]

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[1] The following is a copy of the rough draft of Dr. Johnson's reply to Franklin regarding the "Idea of the English School." It is an interesting tribute that the learned and experienced pedagogue pays to the sagacity and wisdom of the "Tradesman." The draught is in the collection of Mr. Joline. — ED.

"SR:

"As I could not make a tour to Philadelphia this Fall I have lately taken a Car'g ride to several parts of this Colony & being absent when yr kind letter arrived, this must be my apology for not answering last [illegible]. Nobody would imagine that the draught you have made for an English education was done by a Tradesman. But so it sometimes is, a True Genius will not content itself without entering more or less into almost everything, and of mastering many things more in spite of Fate it self. I cannot pretend to be qualified to criticize much on things of this kind having never had anything that could be called an Education myself, the most of what I *did* learn being of such a

113. TO JARED ELIOT (Y.)

Philad., Oct. 25, 1750.

DEAR SIR,

I ought to have inform'd you sooner, that we got well home, and should have enquir'd after your Health, as we left you in the hands of a Fever. I beg you'd excuse the Delay, and desire you would remember in my favour the old saying, *They who have much Business must have much Pardon.* Whenever Mr. Francis and I meet of an Evening, we drink your Health, among our other New England

cobweb kind that the best thing I could do with it was to forget it as fast as I could. So that I am free to say that I am not able to find any fault with your scheme much less to devise a better. So far from this that I can't but admire it as a most excellent Draught & particularly your contrivance to promote [public?] speaking & sundry observations on the advantages of good reading and speaking. The only thing I can think of that may meliorate what you have done is that as the business of your third class seems less than that of the others, & that you say nothing of Rhetoric and Oratory considered as an Art, perhaps you might have done well to prescribe in that year the learning of some system of Rhetoric so as to have a good notion of the Tropes & Figures. The best I know of is that of Blackwell on the Classics; this therefore & the Port Royal art of Speaking . . . would be well thummed in that year. And . . . you might do well to mention Milton & Telemachus & the Travells of Cyrus with the works of Shakespear, Addison & Pope & Swift . . . as the best English classics. If you have a copy of this Draught I would beg to keep this, otherwise I would transcribe & return it 2 or 3 posts hence when I will also return my Noetica but as I am now examining one Ellis a late piece on the original of our Knowledge especially of Divine things, I would see whether it will administer any thing that may be an advantage to it, but I must . . . you capable of having suggested what might have been of use to it & I wish you had. Indeed I might have much enlarged if I had not been obliged to study brevity. If I should never remove to your parts I shall be glad to be as useful to your great design as I am able. By the way, I have heard you have had bad success in inoculating. I should be glad to know if truth. My very humble service to Messrs. John & Francis. I remain &c &c

"S. J."

Friends, and he desires to be always respectfully remembered to you.

I am glad to hear you are got well again; but cannot have the Pleasure of seeing you again this Year. I will write to Col. Schuyler, and obtain for you, a particular account of his manner of improving his bank'd Grounds; and will also procure for you a Specimen of our Alum Earth, with Mr. Syng's Observations on it. In return (for you know there is no Trade without Returns) I request you to procure for me a particular Acct of the manner of making a new kind of Fence we saw at Southhold, on Long Island, which consists of a Bank and Hedge. I would know every particular relating to this Matter, as the best Thickness, Height, and Slope of the Bank; the Manner of erecting it, the best Time for the Work, the best Way of planting the Hedge, the Price of the Work to Labourers per Rod or Perch, and whatever may be of Use for our Information here, who begin in many Places to be at a Loss for Wood to make Fence with. We were told at Southhold, that this kind of Fencing had been long practic'd with Success at Southampton and other Places, on the South Side of the Island, but was new among them. I hear the Minister at Southhold is esteem'd an ingenious Man; perhaps you may know him, and he will at your Request favour me with an explicit Acct of these Fences.

The fore part of the Summer here was extremely dry, and the Grass in many Places was burnt up. But we had a good Crop of Wheat; and, Rains coming on about the End of July, we had in August a new Spring, the Grass sprouting again wonderfully thick and fast, in Fields where we thought the very Roots had been destroy'd. Our

Grave-diggers said they found the earth hot sensibly at 3 feet depth, even after these Rains; perhaps the great Heat below, and the Moisture above, occasion'd this sudden and profuse Vegetation, the whole Country being, as it were, one great Hot-bed.

I am, with esteem and affection, dear Sir,
Your oblig'd hum. servt,
B. Franklin.

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114. TO A FRIEND IN BOSTON[1]

Account of an Accident while making an Electrical Experiment

Philadelphia, December 25, 1750.

I have lately made an experiment in electricity, that I desire never to repeat. Two nights ago, being about to kill a turkey by the shock from two large glass jars, containing as much electrical fire as forty common phials, I inadvertently took the whole through my own arms and body, by receiving the fire from the united top wires with one hand, while the other held a chain connected with the outsides of both jars. The company present (whose talking to me, and to one another, I suppose occasioned my inattention to what I was about) say, that the flash was very great, and the crack as loud as a pistol; yet, my senses being instantly gone, I neither saw the one nor heard the other; nor did I feel the stroke on my hand, though I afterwards found it raised a round swelling where the fire entered, as big as half a pistol-bullet; by which you may judge of the quickness of the electrical fire, which by this instance seems to be greater than that of sound, light, or animal sensation.

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[1] A copy of this letter was found among Governor Bowdoin's papers, without the name of the person to whom it was addressed. — S.

What I can remember of the matter is that I was about to try whether the bottles or jars were fully charged, by the strength and length of the stream issuing to my hand, as I commonly used to do, and which I might safely enough have done if I had not held the chain in the other hand. I then felt what I know not how well to describe; a universal blow throughout my whole body from head to foot, which seemed within as well as without; after which the first thing I took notice of was a violent quick shaking of my body, which gradually remitting, my sense as gradually returned, and then I thought the bottles must be discharged, but could not conceive how, till at last I perceived the chain in my hand, and recollected what I had been about to do. That part of my hand and fingers, which held the chain, was left white, as though the blood had been driven out, and remained so eight or ten minutes after, feeling like dead flesh; and I had a numbness in my arms and the back of my neck, which continued till the next morning, but wore off. Nothing remains now of this shock, but a soreness in my breast-bone, which feels as if it had been bruised. I did not fall, but suppose I should have been knocked down, if I had received the stroke in my head. The whole was over in less than a minute.

You may communicate this to Mr. Bowdoin, as a caution to him, but do not make it more public, for I am ashamed to have been guilty of so notorious a blunder; a match for that of the Irishman, whom my sister told me of, who, to divert his wife, poured the bottle of gunpowder on the live coal; or of that other, who, being about to steal powder, made a hole in the cask with a hot iron. I am yours, &c.

B. FRANKLIN.

P. S. The jars hold six gallons each.

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115. TO C[ADWALLADER] C[OLDEN] ESQ. AT NEW YORK[1]

COMMUNICATED TO MR. COLLINSON

[Philadelphia] 1751.

SIR,

I inclose you answers, such as my present hurry of business will permit me to make, to the principal queries contained in yours of the 28th instant, and beg leave to refer you to the latter piece in the printed collection of my papers, for farther explanation of the difference between what are called *electrics per se*, and *non-electrics*. When you have had time to read and consider these papers, I will endeavour to make any new experiments you shall propose, that you think may afford farther light or satisfaction to either of us; and shall be much obliged to you for such remarks, objections, &c., as may occur to you.

I forget whether I wrote you that I have melted brass pins and steel needles, inverted the poles of the magnetic needle, given a magnetism and polarity to needles that had none, and fired dry gunpowder by the electric spark. I have five bottles that contain 8 or 9 gallons each, two of which charg'd, are sufficient for those purposes: but I can charge and discharge them altogether. There are no bounds (but what expence and labour give) to the force man may raise and use in the electrical way: for bottle may be added to bottle *in infinitum*, and all united and discharged together as one, the force and effect proportioned to their number and size. The greatest known effects of common lightning may, I think, without much difficulty, be exceeded in this way, which a few years since could not have been believed, and even now may seem to many a little extravagant to suppose. So we are got beyond the skill of *Rabelais's* devils of two years old, who, he humorously says, had only learnt to thunder and lighten a little round the head of a cabbage.

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[1] From "Experiments and Observations on Electricity," London: 1769, p. 93.

I am, with sincere respect,
Your most obliged humble servant,
B. FRANKLIN.

QUERIES AND ANSWERS REFERR'D TO IN THE FOREGOING LETTER[1]

Query. Wherein consists the difference between an *electric* and a *non-electric* body?

Answer. The terms electric *per se* and non-electric, were first used to distinguish bodies, on a mistaken supposition that those called electrics *per se*, alone contained electric matter in their substance, which was capable of being excited by friction, and of being produced or drawn from them, and communicated to those called non-electrics, supposed to be destitute of it: For the glass, &c., being rubbed, discover'd signs of having it, by snapping to the finger, attracting, repelling, &c., and could communicate those signs to metals and water. Afterwards it was found, that rubbing of glass would not produce the electric matter, unless a communication was preserved between the rubber and the floor; and subsequent experiments proved that the electric matter was really drawn from those bodies that at first were thought to have none in them. Then it was doubted whether glass, and other bodies called *electrics per se*, had really any electric matter in them, since they apparently afforded none but what they first extracted from those which had been called non-electrics. But some of my experiments shew that glass contains it in great quantity, and I now suspect it to be pretty equally diffused in all the matter of this terraqueous globe. If so, the terms *electric per se* and *non-electric*, should be laid aside as improper: And (the only difference being this, that some bodies will conduct electric matter, and others will not) the terms *conductor* and *non-conductor* may supply their place. If any portion of electric matter is applied to a piece of conducting matter, it penetrates and flows through it, or spreads equally on its surface; if applied to a piece of non-conducting matter, it will do neither. Perfect conductors of electric matter are only metals and water; other bodies conducting only as they contain a mixture of those; without more or less of which they will not conduct at all.[1] This (by the way) shews a new relation between metals and water heretofore unknown.

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[1] From "Experiments and Observations on Electricity," London: 1769, p. 95.

To illustrate this by a comparison, which, however, can only give a faint resemblance. Electric matter passes through conductors, as water passes through a porous stone, or spreads on their surfaces as water spreads on a wet stone; but, when applied to non-conductors, it is like water dropt on a greasy stone, it neither penetrates, passes through, nor spreads on the surface, but remains in drops where it falls. See farther on this head in my last printed piece, [entitled *Opinions and Conjectures*, &c. 1749.]

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[1] This proposition is since found to be too general; Mr. *Wilson* having discovered that melted wax and rosin will also conduct. — F.

Query. What are the effects of air in electrical experiments?

Answer. All I have hitherto observed, are these. Moist air receives and conducts the electrical matter in proportion to its moisture, quite dry air not at all: air is therefore to be class'd with the non-conductors. Dry air assists in confining the electrical atmosphere to the body it surrounds, and prevents its dissipating: for in vacuo it quits easily, and points operate stronger, *i.e.* they throw off or attract the electrical matter more freely, and at greater distances; so that air intervening obstructs its passage from body to body, in some degree. A clean electrical phial and wire, containing air instead of water, will not be charged nor give a shock, any more than if it was fill'd with powder of glass; but exhausted of air it operates as well as if filled with water. Yet, an electric atmosphere and air do not seem to exclude each other, for we breath freely in such an atmosphere, and dry air will blow through it without displacing or driving it away. I question whether the strongest dry N. Wester would dissipate it. I once electrified a large cork ball, at the end of a silk thread three feet long, the other end of which I held in my fingers, and whirl'd it round, like a sling, 100 times in the air, with the swiftest motion I could possibly give it, yet it retained its electric atmosphere, though it must have passed through 800 yards of air, allowing my arm in giving the motion to add a foot to the semi-diameter of the circle. By quite dry air, I mean the dryest we have; for perhaps we never have any perfectly free from moisture. An electrical atmosphere raised round a thick wire, inserted in a phial of air, drives out none of the air, nor on withdrawing that atmosphere will any air rush in, as I have found by a curious experiment [1] accurately made, whence we concluded that the air's elasticity was not affected thereby.

An Experiment towards discovering more of the Qualities of the Electric Fluid.

FROM the prime conductor, hang a bullet by a wire hook; under the bullet, at half an inch distance, place a bright piece of silver to receive the sparks; then let the wheel be turned, and in a few minutes (if the repeated sparks continually strike in the same spot) the silver will receive a blue stain, nearly the colour of a watch-spring.

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[1] The experiment here mentioned was thus made. An empty phial was stopped with a cork. Through the cork passed a thick wire, as usual in the Leyden experiment, which wire almost reached the bottom. Through another part of the cork passed one leg of a small glass siphon, the other leg on the outside came down almost to the bottom of the phial. This phial was first held a short time in the hand, which, warming and of course rarefying the air within, drove a small part of it out through the siphon. Then a little red ink in a tea-spoon was applied to the opening of the outer leg of the siphon; so that as the air within cooled, a little of the ink might rise in that leg. When the air within the bottle come to be of the same temperature of that without, the drop of red ink would rest in a certain part of the leg. But the warmth of a finger applied to the phial would cause that drop to descend, as the least outward coolness applied would make it ascend. When it had found its situation, and was at rest, the wire was electrified by a communication from the prime conductor. This was supposed to give an electric atmosphere to the wire within the bottle, which might likewise rarefy the included air, and of course depress the drop of ink in the siphon. But no such effect followed. — F.

This note is quoted from the fifth edition, 1774. It is not found in the others. — ED.

A bright piece of iron will also be spotted, but not with that colour; it rather seems corroded.

On gold, brass, or tin, I have not perceived it makes any impression. But the spots on the silver or iron will be the same, whether the bullet be lead, brass, gold, or silver.

On a silver bullet there will also appear a small spot, as well as on the plate below it.

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116. TO WILLIAM STRAHAN (P. C.)

Philadelphia, February 4 1750, 51.

Dear Sir: — I wrote you *per* Capt. Budden, who sailed the beginning of December, and sent you a bill of exchange on Jonathan Gurnel & Co. for £50, and desired you to send one Viner's Bacon and Danver's Abridgments of the Law, with Wood's and Coke's Institutes. I have no copy of the letter, and forgot whether I added the Complete Attorney, in six or eight volumes, 8 vo, the precedents in English; please to send that also. I likewise desired you to enter my son's name William Franklin, in one of the Inns of Court as a student of Law, which, I am told costs between £5 and £6, and to let me know what time must expire before he can be called to the bar after such entry, because he intends to go to London a year or two before, to finish his studies. I hope that letter got to hand. I see they have printed a new translation of Tully on Old Age; please to send me one of them.

Mr. Hall continues well, and goes on perfectly to my satisfaction. My respects to Mrs. Strahan and Master Billy. I have not time to add but that I am with great esteem and affection, dear sir, your most obliged humble servant,

B. FRANKLIN.

117. TO JAMES PARKER[1]

Philadelphia, March 20, 1750, 1.

DEAR MR. PARKER,

I have, as you desire, read the Manuscript you sent me; and am of Opinion, with the publick-spirited Author, that securing the Friendship of the *Indians* is of the greatest Consequence to these Colonies; and that the surest means of doing it, are, to regulate the *Indian* Trade, so as to convince them, by Experience, that they may have the best and cheapest Goods, and the fairest Dealing from the *English;* and to unite the several Governments, so as to form a Strength that the *Indians* may depend on for Protection in Case of a Rupture with the *French;* or apprehend great Danger from, if they should break with us.

This Union of the Colonies, however necessary, I apprehend is not to be brought about by the Means that have hitherto been used for that Purpose. A Governor of one

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[1] This letter was printed by Mr. Bigelow ("The Complete Works of Benjamin Franklin," Vol. II, p. 217). His attention was directed to it by Professor Edward Eggleston, who found it in the appendix to a pamphlet entitled, "The Importance of Gaining and Preserving the Friendship of the Indians to the British Interest, Considered." The pamphlet was published in New York, by James Parker, in 1751, and the letter was thus introduced: "The Author of the foregoing Essay, having desired the Printer to communicate the Manuscript to some of the most judicious of his Friends, it produced the following Letter from one of them: The publishing whereof, we think, needs no other Apology." — ED.

Colony, who happens from some Circumstances in his own Government, to see the Necessity of such an Union, writes his Sentiments of the Matter to the other Governors, and desires them to recommend it to their respective Assemblies. They accordingly lay the Letters before those Assemblies, and perhaps recommend the Proposal in general Words. But Governors are often on ill Terms with their Assemblies, and seldom are the Men that have the most Influence among them. And perhaps some Governors, tho' they openly recommend the Scheme, may privately throw cold Water on it, as thinking additional publick Charges will make their People less able or less willing to give to them. Or perhaps they do not clearly see the Necessity of it, and therefore do not very earnestly press the Consideration of it: And no one being present that has the Affair at Heart, to back it, to answer and remove Objections, &c., 'tis easily dropt, and nothing is done. Such an Union is certainly necessary to us all, but more immediately so to your Government. Now, if you were to pick out half a Dozen Men of good Understanding and Address, and furnish them with a reasonable Scheme and proper Instructions, and send them in the Nature of Ambassadors to the other Colonies, where they might apply particularly to all the leading Men, and by proper Management get them to engage in promoting the Scheme; where, by being present, they would have the Opportunity of pressing the Affair both in publick and private, obviating Difficulties as they arise, answering Objections as soon as they are made, before they spread and gather Strength in the Minds of the People, &c., &c. I imagine such an Union might thereby be made and established: For reasonable sensible Men, can always make a reasonable Scheme appear such to other reasonable Men, if they take Pains, and have Time and Opportunity for it; unless from some Circumstances their Honesty and good Intentions are suspected. A voluntary Union entered into by the Colonies themselves, I think, would be preferable to one impos'd by Parliament; for it would be perhaps not much more difficult to procure, and more easy to alter and improve, as Circumstances should require and Experience direct. It would be a very strange Thing, if *Six Nations* of ignorant Savages should be capable of forming a Scheme for such an Union, and be able to execute it in such a Manner, as that it has subsisted Ages, and appears indissoluble; and yet that a like Union should be impracticable for ten or a Dozen *English* Colonies, to whom it is more necessary, and must be more advantageous; and who cannot be supposed to want an equal Understanding of their Interests.

Were there a general Council form'd by all the Colonies, and a general Governor appointed by the Crown to preside in that Council, or in some Manner to concur with and confirm their Acts, and take Care of the Execution; every Thing relating to Indian Affairs and the Defence of the Colonies, might be properly put under their Management. Each Colony should be represented by as many Members as it pays Sums of —— Hundred Pounds into the common Treasury for the common Expence; which Treasury would perhaps be best and most equitably supply'd, by an equal Excise on strong Liquors in all the Colonies, the Produce never to be apply'd to the private Use of any Colony, but to the general Service. Perhaps if the Council were to meet successively at the Capitals of the several Colonies, they might thereby become better acquainted with the Circumstances, Interests, Strength, or Weakness, &c., of all, and thence be able to judge better of Measures propos'd from time to time: At least it might be more satisfactory to the Colonies, if this were propos'd as a Part of the Scheme; for a Preference might create Jealousy and Dislike.

I believe the Place mention'd is a very suitable one to build a Fort on. In Times of Peace, Parties of the Garrisons of all Frontier Forts might be allowed to go out on Hunting Expeditions, with or without Indians, and have the Profit to themselves of the Skins they get: By this Means a Number of Wood-Runners would be form'd, well acquainted with the Country, and of great Use in War Time as Guides of Parties and Scouts, &c. Every Indian is a Hunter; and as their Manner of making War, *viz.*, by Skulking, Surprizing and Killing particular Persons and Families, is just the same as their Manner of Hunting, only changing the Object, Every Indian is a disciplin'd Soldier. Soldiers of this Kind are always wanted in the Colonies in an Indian War, for the *European* Military Discipline is of little Use in these Woods.

Publick Trading Houses would certainly have a good Effect towards regulating the private Trade; and preventing the Impositions of the private Traders; and therefore such should be established in suitable Places all along the Frontiers; and the Superintendant of the Trade, propos'd by the Author, would, I think, be a useful Officer.

The Observation concerning the Importation of *Germans* in too great Numbers into *Pennsylvania* is, I believe, a very just one. This will in a few Years become a *German* Colony: Instead of their Learning our Language, we must learn their's, or live as in a foreign Country. Already the *English* begin to quit particular Neighbourhoods surrounded by *Dutch*, being made uneasy by the Disagreeableness of disonant Manners; And in Time, Numbers will probably quit the Province for the same Reason. Besides, the *Dutch* under-live, and are thereby enabled to under-work and under-sell the *English;* who are thereby extreamly incommoded, and consequently disgusted, so that there can be no cordial Affection or Unity between the two Nations. How good Subjects they may make, and how faithful to the *British* Interest, is a Question worth considering. And in my Opinion, equal Numbers might have been spared from the *British* Islands without being miss'd there, and on proper Encouragement would have come over. I say without being miss'd, perhaps I might say without lessening the Number of People at Home. I question indeed, whether there be a Man the less in *Britain* for the Establishment of the Colonies. An Island can support but a certain Number of People: When all Employments are full, Multitudes refrain from Marriage, 'till they can see how to maintain a Family. The Number of Englishmen in *England*, cannot by their present common Increase be doubled in a Thousand Years; but if half of them were taken away and planted in *America*, where there is Room for them to encrease, and sufficient Employment and Subsistance; the Number of *Englishmen* would be doubled in 100 Years: for those left at home, would multiply in that Time so as to fill up the Vacancy, and those here would at least keep Pace with them.

Every one must approve the Proposal of encouraging a Number of sober discreet Smiths to reside among the *Indians*.

They would doubtless be of great Service. The whole Subsistance of *Indians* depends on keeping their Guns in order; and if they are obliged to make a Journey of two or three hundred Miles to an English Settlement to get a Lock mended; it may, besides the Trouble, occasion the Loss of their Hunting Season. They are People that think much of their temporal, but little of their spiritual Interests; and therefore, as he would be a most useful and necessary Man to them, a Smith is more likely to influence them than a Jesuit; provided he has a good common Understanding, and is from time to time well instructed.

I wish I could offer any Thing for the Improvement of the Author's Piece, but I have little Knowledge, and less Experience in these Matters. I think it ought to be printed; and should be glad there were a more general Communication of the Sentiments of judicious Men, on Subjects so generally interesting; it would certainly produce good Effects. Please to present my Respects to the Gentleman, and thank him for the Perusal of his Manuscript.

I am, yours affectionately.

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118. EXPORTING OF FELONS TO THE COLONIES[1]

From *The Pennsylvania Gazette*, May 9, 1751.

To the Printers of the Gazette

By a Passage in one of your late Papers, I understand that the Government at home will not suffer our mistaken

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[1] Paul Leicester Ford recognized Franklin's hand in this satire. Mr. Bigelow printed it in the fifth edition of "The Life of Benjamin Franklin" (1905). It is referred to by Condorcet in his *Eloge* of Franklin before the Académie

Assemblies to make any Law for preventing or discouraging the Importation of Convicts from Great Britain, for this kind Reason, '*That such Laws are against the Publick Utility, as they tend to prevent the* IMPROVEMENT *and* WELL PEOPLING *of the Colonies*.'

Such a tender *parental* Concern in our *Mother Country* for the *Welfare* of her *Children*, calls aloud for the highest *Returns* of Gratitude and Duty. This every one must be sensible of: But 'tis said, that in our present Circumstances it is absolutely impossible for us to make *such* as are adequate to the Favour. I own it; but nevertheless let us do our Endeavour. 'Tis something to show a grateful Disposition.

In some of the uninhabited Parts of these Provinces, there are Numbers of these venomous Reptiles we call RATTLE-SNAKES; Felons-convict from the Beginning of the World: These, whenever we meet with them, we put to Death, by Virtue of an old Law, *Thou shalt bruise his Head*. But as this is a sanguinary Law, and may seem too cruel; and as however mischievous those Creatures are with us, they may possibly change their Natures, if they were to change the Climate; I would humbly propose, that this general Sentence of *Death* be changed for *Transportation*.

In the Spring of the Year, when they first creep out of their Holes, they are feeble, heavy, slow, and easily taken; and if a small Bounty were allow'd *per* Head, some Thousands might be collected annually, and *transported* to *Britain*. There I would propose to have them carefully distributed

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des Sciences in 1790: "Chargé de demander l'abolition de l'usage insultant d'envoyer les malfaiteurs dans les Colonies, le Ministre lui allégait la nécessité d'en délivrer l'Angleterre. Que diriez-vous, répondit-il, si nous ordonnions l'exportation des serpens a sonnette." — ED.

in *St. James's Park*, in the *Spring-Gardens* and other Places of Pleasure about *London;* in the Gardens of all the Nobility and Gentry throughout the Nation; but particularly in the Gardens of the *Prime Ministers*, the *Lords of Trade* and *Members of Parliament;* for to them we are *most particularly* obliged.

There is no human Scheme so perfect, but some Inconveniencies may be objected to it: Yet when the Conveniencies far exceed, the Scheme is judg'd rational, and fit to be executed. Thus Inconveniencies have been objected to that *good* and *wise* Act of Parliament, by virtue of which all the *Newgates* and *Dungeons* in *Britain* are emptied into the Colonies. It has been said, that these Thieves and Villains introduc'd among us, spoil the Morals of Youth in the Neighbourhoods that entertain them, and perpetrate many horrid Crimes: But let not *private Interests* obstruct *publick* Utility. Our *Mother* knows what is best for us. What is a little *Housebreaking*, *Shoplifting*, or *Highway Robbing;* what is a *Son* now and then *corrupted* and *hang'd*, a Daughter *debauch'd* and *pox'd*, a Wife *stabb'd*, a Husband's *Throat cut*, or a Child's *Brains beat out* with an Axe, compar'd with this 'IMPROVEMENT and WELL PEOPLING of the Colonies!'

Thus it may perhaps be objected to my Scheme, that the *Rattle-Snake* is a mischievous Creature, and that his changing his Nature with the Clime is a mere Supposition, not yet confirm'd by sufficient Facts. What then? Is not Example more prevalent than Precept? And may not the honest rough British Gentry, by a Familiarity with these Reptiles, learn to *creep*, and to *insinuate*, and to *slaver*, and to *wriggle* into Place (and perhaps to *poison* such as stand in their Way) Qualities of no small Advantage to Courtiers! In comparison of which 'IMPROVEMENT and PUBLICK UTILITY,' what is a *Child* now and then kill'd by their venomous Bite, . . . or even a favourite *Lap Dog?*

I would only add, that this exporting of Felons to the Colonies, may be consider'd as a *Trade*, as well as in the Light of a *Favour*, Now all Commerce implies Returns: Justice requires them: There can be no Trade without them. And *Rattle-Snakes* seem the most *suitable Returns* for the *Human Serpents* sent us by our *Mother* Country. In this, however, as in every other Branch of Trade, she will have the Advantage of us. She will reap *equal* Benefits without equal Risque of the Inconveniencies and Dangers. For the *Rattle-Snake* gives Warning before he attempts his Mischief; which the Convict does not. I am

Yours, &c.

AMERICANUS.

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119. TO PETER COLLINSON[1] (P. C.)

Philad^a May 21. 1751

DEAR SIR

Budden is arrived and everything you sent per him come safe to hand. Both the Library-Company and the Academy are exceedingly obliged to you and would be glad of any Opportunity of serving you or any of your Friends. The Academy goes on as one could wish: We have excellent Masters and the Boys improve surprizingly. The Number now 70 and daily encreasing. I shall write more particularly per next Vessel. The occasion of my writing this, via

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[1] From the original in the collection of Mr. J. Pierpont Morgan.

Ireland is That I have just receiv'd Advice that the Deputy Post Master General of America (Mr. Elliot Benger residing in Virginia) who has for some time been in declining Way is tho't to be near his End. My Friends advise me to apply for this Post and Mr. Allen (our Chief Justice) has wrote the enclos'd to his Correspondent, Mr. Simpson, in my favour requesting his Interest and Application in the Affair and impowering him to advance a considerable Sum if it should be necessary.

I have not heretofore made much Scruple of giving you Trouble when the Publick Good was to be promoted by it, but 'tis with great Reluctance that I think of asking you to interest yourself in my private Concerns, as I know you have little Time to spare. The Place is in the Disposal of the Post Masters General of Britain with some of whom or their Friends you may possibly have Acquaintance. Mr. Allen has desir'd Mr. Simpson to confer with you on the Affair and if you can without much Inconvenience to yourself advise and assist in endeavouring to secure the Success of this Application you will whatever may be the Event add greatly to the Obligations you have already conferr'd on me: and if it succeeds I hope that as my Power of doing good increases my *Inclination* will always at least keep pace with it. I am quite a Stranger to the Manner of Managing these Applications so can offer no particular Instructions. I enclose a Copy of the Commission of a former Deputy Post Master General which may be of some Use. The Articles of Agreem^{t} refer'd to in the Commission I have never seen but suppose they have always been nearly the same whoever is appointed, and have been usually sent over to America to be executed by the new Officer; for I know neither of the three last Officers went to England for the Commission. The Place has been commonly reputed worth about £150 a Year but would be otherways very suitable to me, particularly as it would enable me to execute a Scheme long since form'd of which I send you enclos'd a Copy, and which I hope would soon produce something agreeable to you and to all Lovers of Useful Knowledge, for I have now a large Acquaintance among ingenious Men in America. I need not tell you that Philadelphia being the Center of the Continent Colonies and having constant Communication with the West India Islands is by much a fitter Place for the Situation of a General Post Office than Virginia, and that it would be some Reputation to our Province to have it establish'd here. I would only add that as I have a Respect for Mr. Benger I should be glad the Application were so managed as not to give him any Offence if he should recover. But I leave everything to you and Mr. Simpson referring you to Mr. Allen's Letter to that Gentleman for further particulars, and am dear Sir,

Your affectionate humble Serv^{t}

B. FRANKLIN.

P. S. I have heard £200 was given for this Office by Mr. Benger and the same by his Predecessor. I know not whose Perquisite it was. But lest that should not be sufficient and there may be some contingent Fees and Charges Mr. Allen has ordered £300. However the less it costs the better as 'tis an Office for Life only which is a very uncertain Tenure.

120. TO WILLIAM STRAHAN. (P. C.)

Philadelphia, June 28, 1751.

Dear Sir: — I received yours of March 26th, with the books *per* Smith, in good order; and your account, which agrees with mine, except in a trifle, the share of the charges on Ainsworth carried to J. Read's account. I am concerned at your lying so long out of your money, and must think of some way of making you amends. I have wrote to Smith at Antigua to quicken him in discharging his debt to you. I purpose, God willing, to go over with my son as soon as it becomes necessary for him to go, when I hope to have the pleasure of finding you and yours well and happy. In the parcel of books I had from you, 1747 (I think the last parcel), there was a number of Law books. When I quitted the shop to Mr. Hall, they were left in his hands for sale, the person who had ordered them not taking them. Now we have lost or mislaid the invoice between us, and cannot settle for those books without your help. I must therefore beg the favour of you to send me a copy of that invoice, so far as relates to the law books, please also to send me the last three volumes of the 8vo Universal History to complete my set, bound in boards, covered with blue paper. My wife and children join in the most affectionate regards to you, Mrs. Strahan, and family, with, dear sir, your most obliged humble servant,

B. Franklin.

17756

121. TO JAMES BOWDOIN

Philadelphia, September 5, 1751.

SIR,

As you are curious in electricity, I take the freedom of introducing to you, my friend Mr. Kinnersley, who visits Boston with a complete apparatus for experimental lectures on that subject. He has given great satisfaction to all that have heard him here, and I believe you will be pleased with his performance. He is quite a stranger in Boston; and, as you will find him a sensible, worthy man, I hope he will be favoured with your countenance, and the encouragement which that must procure him among your friends. I am, Sir, with great respect,

Your most humble servant,

B. FRANKLIN.

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122. TO JARED ELIOT[1]

Philadelphia, September 12, 1751.

DEAR SIR,

I received your favour of last month, with the twelve Essays. The Collinson you mention is the same gentleman I correspond with. He is a most benevolent, worthy man, very curious in botany and other branches of natural history, and fond of improvements in agriculture, &c. He will be pleased with your acquaintance. In the late Philosophical Transactions, you may see frequently papers of his, or letters that were directed to him, on various subjects. He is a member of the Royal Society.

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[1] First printed by Sparks.

An ingenious acquaintance of mine here, Mr. Hugh Roberts,[1] one of our most eminent farmers, tells me, that it appears by your writings, that your people are yet far behind us in the improvement of swamps and meadows. I am persuading him to send you such hints as he thinks may give you farther insight into that matter. But in other respects he greatly esteems your pieces. He says they are preferable to any thing of late years published on that subject in England. The late writers there chiefly copy from one another, and afford very little new or useful; but you have collected experiences and facts, and make propositions, that are reasonable and serviceable. You have taught him, he says, to clear his meadows of elder (a thing very pernicious to banks), which was before beyond the art of all our farmers; and given him several other useful informations.

I am exceedingly obliged to you for the plan and directions concerning ditching. It is very satisfactory, and I hope will be useful here.

Our Academy flourishes beyond expectation. We have now above one hundred scholars, and the number is daily increasing. We have excellent masters at present; and, as we give pretty good salaries, I hope we shall always be able to procure such. We pay the Rector, who teaches

Latin and Greek, per annum, ...	£200
The English master, ...	£150
The Mathematical professor, ...	£125
Three assistant tutors each £60	£180
Total per annum	£655

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[1] See letters to Roberts, dated February 26, 1761, July 7, 1765, and February 27, 1766, in the possession of C. Morton Smith, Esq., great-great-grandson of Hugh Roberts. — Ed.

Our currency is something better than that of New York. The scholars pay each £4 per annum.

The changes of the barometer are most sensible in high latitudes. In the West India Islands the mercury continues at the same height with very little variation the year round. In these latitudes, the alterations are not frequently so great as in England. Thermometers are often badly made. I had three that differed widely from each other, though hung in the same place. As to hygrometers, there is no good one yet invented.[1] The cord is as good as any; but, like the rest, it grows continually less sensible by time, so that the observations of one year cannot be compared with those of another by the same instrument. I will think of what you hint concerning the hydrostatic balance.

What you mention concerning the love of praise is indeed very true; it reigns more or less in every heart; though we are generally hypocrites, in that respect, and pretend to disregard praise, and our nice, modest ears are offended, forsooth, with what one of the ancients calls *the sweetest kind of music.* This hypocrisy is only a sacrifice to the pride of others, or to their envy; both which, I think, ought rather to be mortified. The same sacrifice we make, when we forbear to *praise ourselves*, which naturally we are all inclined to; and I suppose it was formerly the fashion, or Virgil, that courtly writer, would not have put a speech into the mouth of his hero, which now-a-days we should esteem so great an indecency;

"Sum pius Æneas, ...
. . . . famâ super æthera notus."

One of the Romans, I forget who, justified speaking in his own praise by saying, *Every freeman had a right to speak what he thought of himself, as well as of others.* That this is a natural inclination appears in that all children show it, and say freely, *I am a good boy; Am I not a good girl?* and the like, till they have been frequently chid, and told their trumpeter is dead; and that it is unbecoming to sound their own praise, &c. But *naturam expellas furcâ, tamen usque recurret.* Being forbid to praise themselves, they learn instead of it to censure others; which is only a roundabout way of praising themselves; for condemning the conduct of another, in any particular, amounts to as much as saying, *I am so honest, or wise, or good, or prudent, that I could not do or approve of such an action.* This fondness for ourselves, rather than malevolence to others, I take to be the general source of censure and backbiting; and I wish men had not been taught to dam up natural currents, to the overflowing and damage of their neighbours' grounds.

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[1] See letter to Edward Nairne, November 13, 1780. — Ed.

Another advantage, methinks, would arise from freely speaking our good thoughts of ourselves, viz. if we were wrong in them, somebody or other would readily set us right; but now, while we conceal so carefully our vain, erroneous self-opinions, we may carry them to our grave, for who would offer physic to a man that seems to be in health? And the privilege of recounting freely our own good actions might be an inducement to the doing of them, that we might be enabled to speak of them without being subject to be justly contradicted or charged with falsehood; whereas now, as we are not allowed to mention them, and it is an uncertainty whether others will take due notice of them or not, we are perhaps the more indifferent about them; so that, upon the whole, I wish the out-of-fashion practice of praising ourselves would, like other old fashions, come round into fashion again. But this I fear will not be in our time, so we must even be contented with what little praise we can get from one another. And I will endeavour to make you some amends for the trouble of reading this long scrawl, by telling you, that I have the sincerest esteem for you, as an ingenious man and a good one, which together make the valuable member of society. As such, I am with great respect and affection, dear Sir, your obliged humble servant,

B. FRANKLIN.

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123. TO WILLIAM STRAHAN (P. C.)

Philadelphia, September 22, 1751.

DEAR SIR: — My daughter received her books all in good order, and thanks you for your kind care in sending them. Enclosed is a second bill for £20 sterling, the first went *per* Mesnard.

There is a little book on the game of chess, by Philip Stamona,[1] printed for J. Brindley, 1745; if to be had, please to send it to me, with the remaining volumes of Viner as fast as they are published.

We are all well, and join in affectionate regards to you, Mrs. Strahan, and your children. I am, dear sir, your obliged humble servant,

B. FRANKLIN.

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[1] Philip Stamma, "The Noble Game of Chess," London, 1745, 12mo. — ED.

124. TO MRS. JANE MECOM[1]

Philadelphia, October 24, 1751.

DEAR SISTER,

My son waits upon you with this, whom I heartily recommend to your motherly care and advice. He is indeed a sober and discreet lad of his years, but he is young and unacquainted with the ways of your place. My compliments to my new niece, Miss Abiah, and pray her to accept the enclosed piece of gold, to cut her teeth; it may afterwards buy nuts for them to crack.

Some time since I sent a letter to your care for our cousin at Casco Bay. Have you had an opportunity to forward it? My love to brother Mecom and your children; and to brother and sister Davenport and children; and respects to Mrs. Billings and her daughter, and all other friends, from, dear sister, your affectionate brother,

B. FRANKLIN.

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125. TO SUSANNA WRIGHT[2] (P. C.)

Philada Nov 21, 1751.

MADAM:

Your guests all got well home to their Families highly pleased with their Journey and with the Hospitality of Hempfield.[3]

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[1] First printed in "Familiar Letters and Miscellaneous Papers of Benjamin Franklin" (Sparks). Boston, 1833, p. 21.

[2] From the collection of J. Ewing Mifflin, Esq.

[3] Hempfield was the country home of the Wrights, who were the pioneer settlers of Columbia (or Wright's Ferry), Pennsylvania. Susanna was interested in silk culture. Her brother James erected a corn and grist mill near the mouth of the Shawanese Run, and supplied Braddock's army with flour. — ED.

When I had the pleasure of seeing you I mentioned a new kind of Candles very convenient to read by, which I think you said you had not seen: I take the Freedom to send you a Specimen of them. You will find that they afford a clear white Light, may be held in the Hand even in hot weather, without softening; that their Drops do not make Grease Spots like those from common Candles; that they last much longer and need little or no snuffing. I may add, what will be another Recommendation of them to you that they are the Manufacture of our own country being wrought at Marcus Hook.

In the magazine of August[1] I find that the magnificent King of Portugal has raised his Marble Aqueduct near 100 foot higher than your Chicaselungo. It must be a most stupendous Work. I send you the Prospect of it.

Accept an Almanack for the *New Year* with my hearty Wishes that it may prove a happy one to you and your Friends. I am

Madam
Your obliged huml Serv't
B. FRANKLIN.

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126. TO JARED ELIOT (Y.)

Philada. Dec. 10, 1751.

DEAR SIR,

The Rector of our Academy, Mr. Martin, came over into this country on a Scheme for making Potash, in the Russian Method. He promis'd me some written Directions for you, which expecting daily, I delay'd writing, and now he lies dangerously ill of a kind of Quinsey. The Surgeons have been oblig'd to open his Windpipe, and introduce a leaden Pipe for him to breathe thro'. I fear he will not recover.

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[1] *Gentleman's Magazine*, August, 1751, Vol. XXI, p. 38. — ED.

I thank you for the Merino Wooll; 'tis a Curiosity. Mr. Roberts promises me some Observations on Husbandry for you. It is one Mr. Masters, that makes Dung of Leaves, and not Mr. Roberts. I hope to get the Particulars from him soon.

I have a letter from Mr. Collinson, of July 19th, in which he writes; "Pray, has Mr. Eliot published any Addition to his work? I have Nos. 1 and 2. If I can get ready, I will send some Improvements made in the sandy Parts of the County of Norfolk. By the Way, *it is a great secret*, but it is Mr. Jackson's own Drawing up, being Experiments made on some of his Father's Estates in that County; but his name must not be mentioned. I thank you for the Fowl Meadow Grass. I sowed it June 7th, as soon as I received it, but none is yet come up. I don't know how it is, but I never could raise any of your Native Grasses; and I have had a variety from J. Bartram of curious Species."

In another, of September 26th, he says, "I am much obliged to thee for Mr. Eliot's Third Essay. I have sent Maxwell's 'Select Transactions in Husbandry.' If Mr. Eliot has not seen them, they may be very useful to him. I have prevail'd on our worthy, learned, and ingenious Friend Mr. Jackson to give some Dissertations on the Husbandry of Norfolk, believing it may be very serviceable to the Colonies. He has great Opportunities of doing this, being a Gentleman of Leisure and Fortune, being the only Son, whose father has great Riches and Possessions, and resides every Year, all the long Vacation, at his Father's Seat in Norfolk. After J. Bartram has perused it, I shall submit how it may be further disposed of, only our friend Eliot should see it soon; for Mr. Jackson admires his little Tracts of Husbandry, as well as myself, and it may be of greater service to him and his colony, than to yours." "The Fowl Meadow Grass has at last made its appearance. Another year we shall judge better of it." Thus far friend Collinson. You may expect the Papers in a Post or two. If you make any Use of them, you will take care not to mention any thing of the Author.

The bearer is my son, who desir'd an opportunity of paying his Respects to you in his Return from Boston. He went by Sea.

They have printed all my electrical papers in England, and sent me a few copies, of which I design to send you one per next post, after having corrected a few errata. I am, dear Sir,

Your most humble servant,

B. Franklin.

P. S. Mr. Martin is dead.

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127. TO JARED ELIOT (Y.)

Philada. Dec. 24, 1751.

Dear Sir,

I wrote you at large by my Son, in answer to your former Favours, and sent you an Extract of Mr. Collinson's Letter, who much admires your Tracts on Husbandry. Herewith you will receive a Manuscript of a Friend of Mr. Collinson's, and a printed Book; which you may keep till Spring, and then return it to me. I believe they will afford you Pleasure.

I send you also enclos'd a Letter from my Friend John

Bartram, whose Journal you have read.[1] He corresponds with several of the greatest Naturalists in Europe, and will be proud of an Acquaintance with you. I make no Apologies for introducing him to you; for, tho' a plain illiterate Man, you will find he has Merit. And since for want of Skill in Agriculture I cannot converse with you pertinently on that valuable Subject, I am pleased that I have procur'd you two Correspondents who can.

I am glad you have introduced English Declamation into your College.[2] It will be of great Service to the Youth, especially if care is taken to form their Pronunciation on the best Models. Mr. Whittlesea, who was lately here, will tell you, that we have little Boys under seven, who can deliver an Oration with more Propriety than most Preachers. 'Tis a matter that has been too much neglected. I am, dear Sir, yours affectionately,

B. Franklin.

128. TO SAMUEL JOHNSON, D.D.[3]

Philadelphia, *December* 24, 1751.

Dear Sir, — I received your favour of the 11th inst. and thank you for the hint you give of the omission in the "Idea." The "Sacred Classics" are read in the English school, though I forgot to mention them. And I shall propose at the meeting of the Schools, after the Holidays, that the English master begin and continue to read select portions of them daily with the prayers as you advise.

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[1] "Observations on the Inhabitants, Climate, Soil, Rivers, Productions, Animals, and other matters worthy of Notice. Made by Mr. John Bartram in his Travels from Pensilvania to Onondago, Oswego, and the Lake Ontario, in Canada. London: Printed for J. Whiston and B. White in Fleet Street, 1751." — Ed.

[2] Yale College. — Ed.

[3] From "Life and Correspondence of Samuel Johnson, D.D.," by E. Edwards Beardsley, 1874, p. 166. — Ed.

But if you can be thus useful to us at this distance, how much more might you be so if you were present with us, and had the immediate inspection and government of the schools. I wrote to you in my last that Mr. Martin our Rector died suddenly of a quinsy. His body was carried to the Church, respectfully attended by the trustees, all the masters and scholars in their order, and a great number of the citizens. Mr. Peters preached his funeral sermon, and gave him the just and honourable character he deserved. The schools are now broke up for Christmas, and will not meet again till the 7th of January. Mr. Peters took care of the Latin and Greek School after Mr. Martin's death till the breaking up. And Mr. Allison, a dissenting minister, has promised to continue that care for a month after their next meeting. Is it impossible for you to make us a visit in that time? I hope by the next post to know something of your sentiments, that I may be able to speak more positively to the Trustees concerning the probability of your being prevailed with to remove hither.

The English master is Mr. Dove, a gentleman about your age, who formerly taught grammar sixteen years at Chichester in England. He is an excellent master, and his scholars have made a surprising progress.

I shall send some of the "Œconomies" to Mr. Havens per next post. If you have a spare one of your "Essays on the Method of Study," the English edition, please to send it me.

My wife joins in the compliments of the season to you and Mrs. Johnson, with, dear Sir,

Your affectionate humble servant,

B. FRANKLIN.

129. OBSERVATIONS[1]

CONCERNING THE INCREASE OF MANKIND, PEOPLING OF COUNTRIES, ETC.

Written in Pensilvania, 1751

1. TABLES of the Proportion of Marriages to Births, of Deaths to Births, of Marriages to the Numbers of Inhabitants, &c., form'd on Observaions (sic) made upon the Bills of Mortality, Christnings, &c., of populous Cities, will not suit Countries; nor will Tables form'd on Observations made on full-settled old Countries, as *Europe*, suit new Countries, as *America*.

2. For People increase in Proportion to the Number of Marriages, and that is greater in Proportion to the Ease and Convenience of supporting a Family. When families can

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[1] These "Observations" were appended to a political tract, published in Boston in the year 1755, entitled "Observations on the Late and Present Conduct of the French"; which was written by William Clarke, and dedicated to Governor Shirley. Mr. Clarke says in his preface: "*The Observations concerning the Increase of Mankind Peopling of Countries, etc.* were wrote some Years ago; but the ingenious Author would never suffer them to be made publick till now, when he hath been prevailed upon to consent to it by some of his Friends, who thought the Publication of them would be of general Benefit and Advantage." In 1760 appeared Franklin's pamphlet, entitled "The Interest of Great Britain considered, with Regard to her Colonies," published in London, to which this paper was appended, with the following preliminary notice. "In Confirmation of the Writer's Opinion concerning Population, Manufactures, &c., he has thought it not amiss to add an Extract from a Piece written some Years since in America, where the Facts must be well known, on which the Reasonings are founded." It was again printed in "Experiments and Observations on Electricity," London, 1769, identical with the pamphlet of 1760. In Clarke there is a concluding paragraph of 287 words which did not appear in any of the future editions. Both Bartram and Colden (1754) censured the conclusion and Franklin sacrificed the final paragraph. — ED.

be easily supported, more Persons marry, and earlier in Life.

3. In Cities, where all Trades, Occupations, and Offices are full, many delay marrying till they can see how to bear the Charges of a Family; which Charges are greater in Cities, as Luxury is more common: many live single during Life, and continue Servants to Families, Journeymen to Trades; &c. hence Cities do not by natural Generation supply themselves with Inhabitants; the Deaths are more than the Births.

4. In Countries full settled, the Case must be nearly the same; all Lands being occupied and improved to the Heighth; those who cannot get Land, must Labour for others that have it; when Labourers are plenty, their Wages will be low; by low Wages a family is supported with Difficulty; this Difficulty deters many from Marriage, who therefore long continue Servants and single. Only as the Cities take Supplies of People from the Country, and thereby make a little more Room in the Country; Marriage is a little more encourag'd there, and the Births exceed the Deaths.

5. *Europe* is generally full settled with Husbandmen, Manufacturers, &c., and therefore cannot now much increase in People: *America* is chiefly occupied by Indians, who subsist mostly by Hunting. But as the Hunter, of all Men, requires the greatest Quantity of Land from whence to draw his Subsistence, (the Husbandman subsisting on much less, the Gardner on still less, and the Manufacturer requiring least of all), the *Europeans* found *America* as fully settled as it well could be by Hunters; yet these, having large Tracks, were easily prevail'd on to part with Portions of Territory to the new Comers, who did not much interfere

with the Natives in Hunting, and furnish'd them with many Things they wanted.

6. Land being thus plenty in *America*, and so cheap as that a labouring man, that understands Husbandry, can in a short Time save Money enough to purchase a Piece of new Land sufficient for a Plantation, whereon he may subsist a Family, such are not afraid to marry; for, if they even look far enough forward to consider how their Children, when grown up, are to be provided for, they see that more Land is to be had at rates equally easy, all Circumstances considered.

7. Hence Marriages in *America* are more general, and more generally early, than in *Europe*. And if it is reckoned there, that there is but one Marriage per Annum among 100 persons, perhaps we may here reckon two; and if in *Europe* they have but 4 Births to a Marriage (many of their Marriages being late), we may here reckon 8, of which if one half grow up, and our Marriages are made, reckoning one with another at 20 Years of Age, our People must at least be doubled every 20 Years.

8. But notwithstanding this Increase, so vast is the Territory of *North America*, that it will require many Ages to settle it fully; and, till it is fully settled, Labour will never be cheap here, where no Man continues long a Labourer for others, but gets a Plantation of his own, no Man continues long a Journeyman to a Trade, but goes among those new Settlers, and sets up for himself, &c. Hence Labour is no cheaper now in *Pennsylvania*, than it was 30 Years ago, tho' so many Thousand labouring People have been imported.

9. The Danger therefore of these Colonies interfering with their Mother Country in Trades that depend on Labour,

Manufactures, &c., is too remote to require the attention of *Great-Britain.*

10. But in Proportion to the Increase of the Colonies, a vast Demand is growing for British Manufactures, a glorious Market wholly in the Power of *Britain*, in which Foreigners cannot interfere, which will increase in a short Time even beyond her Power of supplying, tho' her whole Trade should be to her Colonies: Therefore *Britain* should not too much restrain Manufactures in her Colonies. A wise and good Mother will not do it. To distress, is to weaken, and weakening the Children weakens the whole Family.

11. Besides if the Manufactures of *Britain* (by reason of the *American* Demands) should rise too high in Price, Foreigners who can sell cheaper will drive her Merchants out of Foreign Markets; Foreign Manufactures will thereby be encouraged and increased, and consequently foreign Nations, perhaps her Rivals in Power, grow more populous and more powerful; while her own Colonies, kept too low, are unable to assist her, or add to her Strength.

12. 'Tis an ill-grounded Opinion that by the Labour of slaves, *America* may possibly vie in Cheapness of Manufactures with *Britain.* The Labour of Slaves can never be so cheap here as the Labour of working Men is in *Britain.* Any one may compute it. Interest of Money is in the Colonies from 6 to 10 per Cent. Slaves one with another cost 30£ Sterling per Head. Reckon then the Interest of the first Purchase of a Slave, the Insurance or Risque on his Life, his Cloathing and Diet, Expences in his Sickness and Loss of Time, Loss by his Neglect of Business (Neglect is natural to the Man who is not to be benefited by his own Care or Diligence), Expence of a Driver to keep him at Work, and

his Pilfering from Time to Time, almost every Slave being *by Nature* a Thief, and compare the whole Amount with the Wages of a Manufacturer of Iron or Wool in *England*, you will see that Labour is much cheaper there than it ever can be by Negroes here. Why then will *Americans* purchase Slaves? Because Slaves may be kept as long as a *Man* pleases, or has Occasion for their Labour; while hired Men are continually leaving their masters (often in the midst of his Business,) and setting up for themselves. — Sec. 8.

13. As the Increase of People depends on the Encouragement of Marriages, the following Things must diminish a Nation, viz. 1. *The being conquered;* for the Conquerors will engross as many Offices, and exact as much Tribute or Profit on the Labour of the conquered, as will maintain them in their new Establishment, and this diminishing the Subsistence of the Natives, discourages their Marriages, and so gradually diminishes them, while the foreigners increase. 2. *Loss of Territory.* Thus, the *Britons* being driven into *Wales*, and crowded together in a barren Country insufficient to support such great Numbers, diminished 'till the People bore a Proportion to the Produce, while the *Saxons* increas'd on their abandoned lands; till the Island became full of *English*. And, were the *English* now driven into *Wales* by some foreign Nation, there would in a few Years, be no more Englishmen in *Britain*, than there are now people in *Wales*. 3. *Loss of Trade.* Manufactures exported, draw Subsistence from Foreign Countries for Numbers; who are thereby enabled to marry and raise Families. If the Nation be deprived of any Branch of Trade, and no new Employment is found for the People occupy'd in that Branch, it will also be soon deprived of so many People. 4. *Loss of*

Food. Suppose a Nation has a Fishery, which not only employs great Numbers, but makes the Food and Subsistence of the People cheaper. If another Nation becomes Master of the Seas, and prevents the Fishery, the People will diminish in Proportion as the Loss of Employ and Dearness of Provision, makes it more difficult to subsist a Family. 5. *Bad Government and insecure Property.* People not only leave such a Country, and settling Abroad incorporate with other Nations, lose their native Language, and become Foreigners, but, the Industry of those that remain being discourag'd, the Quantity of Subsistence in the Country is lessen'd, and the Support of a Family becomes more difficult. So heavy Taxes tend to diminish a People. 6. *The Introduction of Slaves.* The Negroes brought into the *English* Sugar *Islands* have greatly diminish'd the Whites there; the Poor are by this Means deprived of Employment, while a few Families acquire vast Estates; which they spend on Foreign Luxuries, and educating their Children in the Habit of those Luxuries; the same Income is needed for the Support of one that might have maintain'd 100. The Whites who have Slaves, not labouring, are enfeebled, and therefore not so generally prolific; the Slaves being work'd too hard, and ill fed, their Constitutions are broken, and the Deaths among them are more than the Births; so that a continual Supply is needed from *Africa.* The Northern Colonies, having few Slaves, increase in Whites. Slaves also pejorate[1] the Families that use them; the white Children become proud, disgusted with Labour, and being educated in Idleness, are rendered unfit to get a Living by Industry.

14. Hence the Prince that acquires new Territory, if he finds

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[1] See letter to Hume, September 27, 1760. — ED.

it vacant, or removes the Natives to give his own People Room; the Legislator that makes effectual Laws for promoting of Trade, increasing Employment, improving Land by more or better Tillage, providing more Food by Fisheries; securing Property, &c. and the Man that invents new Trades, Arts, or Manufactures, or new Improvements in Husbandry, may be properly called *Fathers* of their Nation, as they are the Cause of the Generation of Multitudes, by the Encouragement they afford to Marriage.

15. As to Privileges granted to the married, (such as the *Jus trium Liberorum* among the *Romans*,) they may hasten the filling of a Country that has been thinned by War or Pestilence, or that has otherwise vacant Territory; but cannot increase a People beyond the Means provided for their Subsistence.

16. Foreign Luxuries and needless Manufactures, imported and used in a Nation, do, by the same Reasoning, increase the People of the Nation that furnishes them, and diminish the People of the Nation that uses them. Laws, therefore, that prevent such Importations, and on the contrary promote the Exportation of Manufactures to be consumed in Foreign Countries, may be called (with Respect to the People that make them) *generative Laws*, as, by increasing Subsistence they encourage Marriage. Such Laws likewise strengthen a Country, doubly, by increasing its own People and diminishing its Neighbours.

17. Some *European* Nations prudently refuse to consume the Manufactures of *East-India*: — They should likewise forbid them to their Colonies; for the Gain to the Merchant is not to be compar'd with the Loss, by this Means, of People to the Nation.

18. Home Luxury in the Great increases the Nation's Manufacturers employ'd by it, who are many, and only tends to diminish the Families that indulge in it, who are few. The greater the common fashionable Expence of any Rank of People, the more cautious they are of Marriage. Therefore Luxury should never be suffer'd to become common.

19. The great Increase of Offspring in particular Families is not always owing to greater Fecundity of Nature, but sometimes to Examples of Industry in the Heads, and industrious Education; by which the Children are enabled to provide better for themselves, and their marrying early is encouraged from the Prospect of good Subsistence.

20. If there be a Sect, therefore, in our Nation, that regard Frugality and Industry as religious Duties, and educate their Children therein, more than others commonly do; such Sect must consequently increase more by natural Generation, than any other sect in *Britain.*

21. The Importation of Foreigners into a Country, that has as many Inhabitants as the present Employments and Provisions for Subsistence will bear, will be in the End no Increase of People; unless the New Comers have more Industry and Frugality than the Natives, and then they will provide more Subsistence, and increase in the Country; but they will gradually eat the Natives out. Nor is it necessary to bring in Foreigners to fill up any occasional Vacancy in a Country; for such Vacancy (if the Laws are good, sec. 14, 16,) will soon be filled by natural Generation. Who can now find the Vacancy made in *Sweden*, *France*, or other Warlike Nations, by the Plague of Heroism, 40 years ago; in *France*, by the Expulsion of the Protestants; in *England*, by the Settlement of her Colonies; or in *Guinea*, by 100

Years Exportation of Slaves, that has blacken'd half *America?* The thinness of Inhabitants in *Spain* is owing to National Pride and Idleness, and other Causes, rather than to the Expulsion of the Moors, or to the making of new Settlements.

22. There is, in short, no Bound to the prolific Nature of Plants or Animals, but what is made by their crowding and interfering with each other's means of Subsistence. Was the Face of the Earth vacant of other Plants, it might be gradually sowed and overspread with one Kind only; as, for Instance, with Fennel; and were it empty of other Inhabitants, it might in a few Ages be replenish'd from one Nation only; as, for Instance, with *Englishmen.* Thus there are suppos'd to be now upwards of One Million *English* Souls in *North-America*, (tho' 'tis thought scarce 80,000 have been brought over Sea,) and yet perhaps there is not one the fewer in *Britain*, but rather many more, on Account of the Employment the Colonies afford to Manufacturers at Home. This Million doubling, suppose but once in 25 Years, will, in another Century, be more than the People of *England*, and the greatest Number of *Englishmen* will be on this Side the Water. What an Accession of Power to the *British* Empire by Sea as well as Land! What Increase of Trade and Navigation! What Numbers of Ships and Seamen! We have been here but little more than 100 years, and yet the Force of our Privateers in the late War, united, was greater, both in Men and Guns, than that of the whole *British* Navy in Queen *Elizabeth's* Time. How important an Affair then to *Britain* is the present Treaty for settling the Bounds between her Colonies and the *French*, and how careful should she be to secure Room enough,

since on the Room depends so much the Increase of her People.

23. In fine, a Nation well regulated is like a Polypus; take away a Limb, its Place is soon supply'd; cut it in two, and each deficient Part shall speedily grow out of the Part remaining. Thus if you have Room and Subsistence enough, as you may by dividing, make ten Polypes out of one, you may of one make ten Nations, equally populous and powerful; or rather increase a Nation ten fold in Numbers and Strength.[1]

And since Detachments of *English* from *Britain*, sent to *America*, will have their Places at Home so soon supply'd and increase so largely here; why should the *Palatine Boors* be suffered to swarm into our Settlements and, by herding together, establish their Language and Manners, to the Exclusion of ours? Why should *Pennsylvania*, founded by the *English*, become a Colony of *Aliens*, who will shortly be so numerous as to Germanize us instead of our Anglifying them, and will never adopt our Language or Customs any more than they can acquire our Complexion?

24. Which leads me to add one Remark, that the Number of purely white People in the World is proportionably very small. All *Africa* is black or tawny; *Asia* chiefly tawny; *America* (exclusive of the new Comers) wholly so. And in *Europe*, the *Spaniards*, *Italians*, *French*, *Russians*, and *Swedes*, are generally of what we call a swarthy Complexion; as are the *Germans* also, the *Saxons* only excepted, who, with the *English*, make the principal Body of White People on the Face of the Earth. I could wish their Numbers were increased. And while we are, as I may call it, *Scour-*

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[1] Here the essay ends in all publications, except Clarke's pamphlet. — ED.

ing our Planet, by *clearing America* of Woods, and so making this Side of our Globe reflect a brighter Light to the Eyes of Inhabitants in *Mars* or *Venus*, why should we, in the Sight of Superior Beings, darken its People? Why increase the Sons of *Africa*, by planting them in *America*, where we have so fair an Opportunity, by excluding all Blacks and Tawneys, of increasing the lovely White and Red? But perhaps I am partial to the Complexion of my Country, for such Kind of Partiality is natural to Mankind.

130. TO JAMES BOWDOIN[1]

Philadelphia, January 24, 1752.

SIR,

I am glad to learn, by your favour of the 21st past, that Mr. *Kinnersley's* lectures have been acceptable to the gentlemen of *Boston*, and are like to prove serviceable to himself.

I thank you for the countenance and encouragement you have so kindly afforded my fellow-citizen.

I send you enclosed an extract of a letter containing the substance of what I observed concerning the communication of magnetism to needles by Electricity. The minutes I took at the time of the experiments are mislaid. I am very little acquainted with the nature of magnetism. Dr. *Gawin Knight*,[2] inventor of the steel magnets, has wrote largely on that subject; but I have not yet had leisure to peruse his writings with the attention necessary to become master of his doctrine.

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[1] Read at the Royal Society, May 27, 1756. Printed in "Experiments and Observations on Electricity," London, 1769, p. 173.

[2] Gowin Knight (1713–1772) presented the first results of his researches in magnetism to the Royal Society in 1744 (Phil. Trans. XLIII, 161). He was elected a Fellow of the Royal Society in 1746, and was awarded the Copley gold medal in 1747. His chief scientific rival was Franklin's friend, John Canton.

Your explication of the crooked direction of lightning appears to me both ingenious and solid. When we can account as satisfactorily for the electrification of clouds, I think that branch of Natural Philosophy will be nearly compleat.

The air, undoubtedly, obstructs the motion of the electric fluid. Dry air prevents the dissipation of an electric atmosphere, the denser the more, as in cold weather. I question whether such an atmosphere can be retained by a body *in vacuo.* A common electrical vial requires a non-electric communication from the wire to every part of the charged glass; otherwise, being dry and clean, and filled with air only, it charges slowly, and discharges gradually by sparks, without a shock: But, exhausted of air, the communication is so open and free between the inserted wire and surface of the glass, that it charges as readily, and shocks as smartly as if filled with water: And I doubt not, but that, in the experiment you propose, the sparks would not only be near strait *in vacuo*, but strike at a greater distance than in the open air, though perhaps there would not be a loud explosion. As soon as I have a little leisure, I will make the experiment, and send you the result.

My supposition, that the sea might possibly be the grand source of lightning, arose from the common observation of its luminous appearance in the night, on the least motion; an appearance never observed in fresh water. Then I knew, that the electric fluid may be pumped up out of the earth, by the friction of a glass globe, on a non-electric cushion; and that, notwithstanding the surprizing activity and swiftness of that fluid, and the non-electric communication between all parts of the cushion and the earth, yet quantities would be snatch'd up by the revolving surface of the globe, thrown on the prime conductor, and dissipated in air. How this was done, and why that subtile, active spirit did not immediately return again from the globe into some part or other of the cushion, and so into the earth, was difficult to conceive; but, whether from its being opposed by a current setting upwards to the cushion, or from whatever other cause, that it did not so return was an evident fact. Then I considered the separate particles of water as so many hard spherules, capable of touching the salt only in points, and imagined a particle of salt could therefore no more be wet by a particle of water, than a globe by a cushion; that there might therefore be such a friction between these originally constituent particles of salt and water, as in a sea of globes and cushions; that each particle of water on the surface might obtain, from the common mass, some particles of the universally diffused, much finer, and more subtil electric fluid, and, forming to itself an atmosphere of those particles, be repelled from the then generally electrified surface of the sea, and fly away with them into the air. I thought, too, that possibly the great mixture of particles electric *per se*, in the ocean water, might, in some degree, impede the swift motion and dissipation of the electric fluid through it to the shores, &c. But, having since found, that salt in the water of an electric vial does not lessen the shock; and having endeavoured in vain to produce that luminous appearance from a mixture of salt and water agitated; and observed, that even the sea-water will not produce it after some hours standing in a bottle; I suspect it to proceed from some principle yet unknown to us (which I would gladly make some experiments to discover, if I lived near the sea), and I grow more doubtful of my former supposition, and more ready to allow weight to that objection (drawn from the activity of the electric fluid, and the readiness of water to conduct), which you have indeed stated with great strength and clearness.

In the mean time, before we part with this hypothesis, let us think what to substitute in its place. I have sometimes queried, whether the friction of the air, an electric *per se*, in violent winds, among trees, and against the surface of the earth, might not pump up, as so many glass globes, quantities of the electric fluid, which the rising vapours might receive from the air, and retain in the clouds they form? on which I should be glad to have your sentiments. An ingenious friend of mine supposes the land clouds more likely to be electrified than the sea clouds. I send his letter for your perusal, which please to return me.

I have wrote nothing lately on Electricity, nor observed any thing new that is material, my time being much taken up with other affairs. Yesterday I discharged four jars through a fine wire, tied up between two strips of glass; the wire was in part melted, and the rest broke into small pieces, from half an inch long, to half a quarter of an inch. My globe raises the electric fire with greater ease, in much greater quantities, by the means of a wire extended from the cushion, to the iron pin of a pump-handle behind my house, which communicates by the pump-spear with the water in the well.

By this post I send to . . .[1] who is curious in that way, some meteorological observations and conjectures, and desire him to communicate them to you, as they may afford you some amusement, and I know you will look over them with a candid eye. By throwing our occasional thoughts on paper, we more readily discover the defects of our opinions, or we digest them better, and find new arguments to support them. This I sometimes practice; but such pieces are fit only to be seen by friends.

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[1] Dr. Perkins. — Ed.

I am, &c.

B. F[RANKLIN].

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131. TO JARED ELIOT (Y.)

Philadelphia, Feb. 4, 1752.

DEAR SIR,

I received your fav'r by my Son, and return my Thanks for your kind Entertainm't of him at your House. I delivered yours to my Friend Bartram, and enclose you his answer. He is much pleased with the Prospect of a continued Correspondence with you. He is a Man of no Letters, but a curious Observer of Nature.

I like very well the Paragraph you propose to insert, concerning Mr. Jackson's Papers; except the last Line, to wit, "The Improvement of it must be deferred till another Year;" instead of which I would say, *It cannot now be inserted, but shall be in our next.* My reasons are, that I think, in the first Place, your ESSAYS ought to be more frequent than once a Year; next, that 'tis pity, if Mr. Jackson's Papers would be advantageous to the Publick, a whole Year's Benefit of them should be lost; thirdly, I think he will be at a Loss to know why, since your Essay was not quite finish'd and publish'd, his Papers might not as well have been added now; and indeed I think you had best add them, unless you intend speedily another Essay. Lastly, I object to the Word *Improvement*, which, in the Sense you use it, is peculiar to New England, and will not be understood elsewhere. It will look as if you propos'd to alter it for the better, correct, or amend it, such being the common meaning of the word *Improve.*[1]

Every Colony has some Peculiar Expressions, familiar to its own People, but strange and unintelligible to others. But this is not to be wonder'd at, since the same may be observ'd in the different Counties of England. I know you will excuse this Freedom, and that I need make no Apology for it. I am, with great Respect, dear Sir,

Your most hum Serv^{t}

B. FRANKLIN.

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132. TO E. KINNERSLEY, AT BOSTON[2]

[Philadelphia] March 2, 1752.

SIR,

I thank you for the Experiments communicated. I sent immediately for your brimstone globe, in order to make the trials you desired, but found it wanted centers, which I have not time now to supply; but, the first leisure I will get it fitted for use, try the experiments, and acquaint you with the result.

In the mean time I suspect, that the different attractions and repulsions you observed, proceeded rather from the greater or smaller quantities of the fire you obtained from different bodies, than from its being of a different *kind*, or having a different *direction*. In haste,

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[1] See letter to Noah Webster, December 26, 1789. — ED.

[2] From "Experiments and Observations on Electricity," London, 1769, p. 102.

I *am*, &c.

B. FRANKLIN.

133. TO E. KINNERSLEY, AT BOSTON[1]

[Philadelphia] March 16, 1752.

SIR,

Having brought your brimstone globe to work, I tried one of the experiments you proposed, and was agreeably surprised to find that the glass globe being at one end of the conductor, and the sulphur globe at the other end, both globes in motion, no spark could be obtained from the conductor, unless when one globe turned slower, or was not in so good order as the other; and then the spark was only in proportion to the difference, so that turning equally, or turning that slowest which worked best, would again bring the conductor to afford no spark.

I found also, that the wire of a phial charg'd by the glass globe, attracted a cork ball that had touch'd the wire of a phial charged by the brimstone globe, and *vice versâ*, so that the cork continued to play between the two phials, just as when one phial was charged through the wire, the other through the coating, by the glass globe alone. And two phials charged, the one by the brimstone globe, the other by the glass globe, would be both discharged by bringing their wires together, and shock the person holding the phials.

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[1] From "Experiments and Observations on Electricity," London, 1769, p. 103.

From these experiments one may be certain, that your 2d, 3d, and 4th proposed experiments would succeed exactly as you suppose, though I have not tried them, wanting time. I imagine it is the glass globe that charges positively, and the sulphur negatively, for these reasons, 1. Though the sulphur globe seems to work equally well with the glass one, yet it can never occasion so large and distant a spark between my knuckle and the conductor, when the sulphur one is working, as when the glass one is used; which, I suppose, is occasioned by this, that bodies of a certain bigness cannot so easily part with a quantity of electrical fluid they have and hold attracted *within* their substance, as they can receive an additional quantity *upon* their surface by way of atmosphere. Therefore so much cannot be drawn *out* of the conductor, as can be thrown *on* it. 2. I observe that the stream or brush of fire, appearing at the end of a wire, connected with the conductor, is long, large, and much diverging, when the glass globe is used, and makes a snapping (or rattling) noise; but, when the sulphur one is used, it is short, small, and makes a hissing noise; and just the reverse of both happens, when you hold the same wire in your hand, and the globes are worked alternately; the brush is large, long, diverging, and snapping (or rattling), when the sulphur globe is turn'd; short, small, and hissing, when the glass globe is turn'd. When the brush is long, large, and much diverging, the body to which it joins, seems to me to be throwing the fire out; and when the contrary appears, it seems to be drinking in. 3. I observe, that when I hold my knuckle before the sulphur globe, while turning, the stream of fire between my knuckle and the globe, seems to spread on its surface, as if it flowed from the finger; on the glass globe it is otherwise. 4. The cool wind (or what was called so), that we used to feel as coming from an electrified point, is, I think, more sensible when the glass globe is used, than when the sulphur one. But these are hasty thoughts. As to your fifth paradox, it must likewise be true, if the globes are alternately worked; but, if worked together, the fire will neither come up nor go down by the chain, because one globe will drink it as fast as the other produces it.

I should be glad to know, whether the effects would be contrary if the glass globe is solid, and the sulphur globe is hollow; but I have no means at present of trying.

In your journeys, your glass globes meet with accidents, and sulphur ones are heavy and inconvenient. *Query.* Would not a thin plane of brimstone, cast on a board, serve on occasion as a cushion, while a globe of leather stuffed (properly mounted) might receive the fire from the sulphur, and charge the conductor positively? Such a globe would be in no danger of breaking.[1] I think I can conceive how it may be done; but have not time to add more than that I am, Yours, &c.

B. FRANKLIN.

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134. TO WILLIAM STRAHAN (P. C.)

Philadelphia, March 21, 1752.

DEAR SIR: — I wrote to you in the winter *via* New York, for a few books, and sent a bill of £30 Barbadoes currency. The first is enclosed. I hope it came to hand in time enough for you to meet with the gentleman and get the money. He is captain of the ship, and was to be found at the New England coffee-house, but probably may be gone before you receive this. They were mostly school books and I have mislaid the original list, so cannot send a copy.

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[1] The discoveries of the late ingenious Mr. *Symmer*, on the positive and negative Electricity produced by the mutual friction of white and black silk, &c., afford hints for farther improvements to be made with this view. — F.

The books for the Trenton Library arrived safe and I believe gave satisfaction.

I want yet Vol. 17 of the Universal History in blue covers, to complete set.

My wife and children join in sincerest wishes of happiness to you and yours, with, dear sir, your obliged humble servant,

B. FRANKLIN.

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135. TO CADWALLADER COLDEN[1] (A. P. S.)

Philadelphia, April 23, '52.

SIR,

In considering your Fav^r^ of the 16th past, I recollected my having wrote you Answers to some Queries concerning the Difference between El *per se*, and Non-Els, and the Effects of Air in El. Experiments, which, I apprehend, you may not have received. The Date I have forgot.

We have been us'd to call those Bodies Els *per se*, which would not conduct the Electric Fluid; we once imagin'd that only such Bodies contain'd that Fluid; afterwards that they contain'd none of it, [and only educed it from other bodies;] but farther Experiments shew'd our Mistakes. It is to be found in all Matter we know of; And the Distinction of Els *per se*, and Non-Els, should now be dropt as improper, and that of *Cond*^{rs} and *Non Cond*^{rs} assum'd in its place, as I mention'd in those Answers.

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[1] Read at the Royal Society, November 11, 1756, and published in "Experiments and Observations on Electricity," London, 1769, p. 262. Reprinted here from the original Ms. in A. P. S.

I do not remember any Experiment by which it appear'd that high Rectified Spirit will not conduct; perhaps you have made such. This I know, that Wax, Rosin, Brimstone, and even Glass, commonly reputed Electrics *per se*, will, when in a fluid State, conduct pretty well. Glass will do it, when only red-hot. So that my former Position, that only Metals and Water were Conductors, and other Bodies more or less such, as they partook of Metal or Moisture, was too general.

Your Conception of the El. Fluid, that it is incomparably more subtile than Air, is undoubtedly just. It pervades dense Matter with the greatest Ease. But it does not seem to mix or incorporate willingly with meer Air, as it does with other Matter. It will not quit common Matter to join with Air. Air obstructs in some Degree its Motion. An Electric Atmosphere cannot be communicated at so great a Distance, thro' intervening Air, by far, as thro' a Vacuum. Who knows then, but there may be, as the Ancients thought, a Region of this Fire above our Atmosphere, prevented by our Air, and its own too great Distance for Attraction, from joining our Earth? Perhaps where the Atmosphere is rarest, this Fluid may be densest, and nearer the Earth where the Atmosphere grows denser, this Fluid may be rarer, yet some of it be low enough to attach itself to our highest Clouds and thence they becoming electrified may be attracted by, and descend towards the Earth, and discharge their watry Contents, together with that Ethereal Fire. Perhaps the Auroræ Boreales are Currents of this Fluid in its own Region, above our Atmosphere, becoming from their Motion visible. There is no End to Conjectures.

As yet we are but Novices in this Branch of Natural Knowledge.

You mention several Differences of Salts in Electrical Experiments. Were they all equally dry? Salt is apt to acquire Moisture from a moist Air, and some sorts more than others. When perfectly dry'd by lying before a Fire, or on a Stove, none that I have try'd will conduct any better than so much Glass.

New Flannel, if dry and warm, will draw the El. Fluid from Non-Electrics, as well as that which has been worn.

I wish you had the Convenience of trying the Experiments you seem to have such Expectations from, upon various kinds of Spirits, Salts, Earths, &c. Frequently, in a Variety of Exp^{ts} tho' we miss what we expected to find, yet something valuable turns out, something surprizing, and instructing, tho' unthought of. I am glad your Piece on the Principles of Action in Matter, with the Explanations, is likely soon to appear. I hope it may be printed correctly. Tracts on uncommon Subjects, when the Author is at a Distance frequently suffer much in the Press, thro' the Ignorance of the Workmen. I think my Letters were almost as fairly wrote, as Print itself, yet they were publish'd with several Errata that render particular Parts quite unintelligible.

I thank you for communicating the Illustration of the Theorem concerning Light. It is very curious. But I must own I am much in the *Dark* about *Light*. I am not satisfy'd with the Doctrine that supposes Particles of Matter call'd Light, continually driven off from the Sun's Surface, with a Swiftness so prodigious! Must not the smallest Particle conceivable have, with such a Motion, a Force exceeding that of a 24 pounder, discharg'd from a Cannon?

Must not the Sun diminish exceedingly by such a Waste of Matter, and the Planets, instead of drawing nearer to him, as some have feared, recede to greater Distances, thro' the lessened Attraction? Yet these Particles, with this amazing Motion, will not drive before them, or remove, the least and lightest Dust they meet with. And the Sun for aught we know continues of his ancient Dimensions, and his Attendants move in their ancient Orbits.

May not all the Phænomena of Light be more conveniently solved, by supposing universal Space filled with a subtle elastic Fluid, which, when at rest, is not visible, but whose Vibrations affect that fine Sense the Eye, as those of Air do the grosser Organs of the Ear? We do not, in the Case of Sound, imagine that any sonorous Particles are thrown off from a Bell, for Instance, and fly in strait Lines to the Ear; why must we believe that luminous Particles leave the Sun and proceed to the Eye? Some Diamonds, if rubbed, shine in the Dark, without losing any Part of their Matter. I can make an Electrical Spark as big as the Flame of a Candle, much brighter, and, therefore, visible farther, yet this is without Fuel; and, I am persuaded no part of the Electric Fluid flies off in such Case to distant Places, but all goes directly, and is to be found in the Place to which I destine it. May not different Degrees of Vibration of the above-mentioned Universal Medium occasion the Appearances of different Colours? I think the Electric Fluid is always the same; yet I find that weaker and stronger Sparks differ in apparent Colour; some white, blue, purple, red; the strongest, White; weak ones, red. Thus different Degrees of Vibration given to the Air produce the 7 different Sounds in Music, analogous to the 7 Colours, yet the Medium, Air, is the same.

If the sun is not wasted by Expence of Light, I can easily conceive that he shall otherwise always retain the same Quantity of Matter; tho' we should suppose him made of Sulphur constantly flaming. The Action of Fire only *separates* the Particles of Matter; it does not *annihilate* them: Water by Heat rais'd in Vapour, returns to the Earth in Rain. And if we could collect all the Particles of burning Matter that go off in Smoke, perhaps they might, with the Ashes, weigh as much as the Body before it was fired; and, if we could put them into the same Position with regard to each other, the Mass would be the same as before, and might be burnt over again. The Chemists have analys'd Sulphur, and find it compos'd, in certain Proportions, of Oil, Salt, and Earth; and, having by the Analysis discovered those Proportions, they can, of those Ingredients, make Sulphur. So we have only to suppose, that the Parts of the Sun's Sulphur, separated by Fire, rise into his Atmosphere, there, being freed from the immediate Action of the Fire, they collect into cloudy Masses, and growing by degrees too heavy to be longer supported, they descend to the Sun, and are burnt over again. Hence the Spots appearing on his Face, which are observ'd to diminish daily in Size, their consuming Edges being of particular Brightness.

It is well we are not, as poor Galileo was, subject to the Inquisition for *Philosophical Heresy*. My Whispers against the orthodox Doctrine, in private Letters, would be dangerous; but your Writing and Printing would be highly criminal. As it is, you must expect some Censure; but one Heretic will surely excuse another.

I am heartily glad to hear more Instances of the success of the Poke-Weed, in the Cure of that horrible Evil to the human Body, a Cancer. You will deserve highly of Mankind for the Communication. But I find in Boston they are at a Loss to know the right Plant, some asserting it is what they call *mechoacan*, others other Things. In one of their late Papers it is publickly requested, that a perfect Description may be given of the Plant, its Places of Growth, &c. I have mislaid the Paper, or would send it to you. I tho't you had describ'd it pretty fully.[1]

With great Respect and Esteem etc.

B. FRANKLIN.

136. TO CADWALLADER COLDEN[2]

Philadelphia, May 14, 1752.

SIR,

I find P—— has been indiscreet enough to print a piece in his paper, which has brought him into a great deal of trouble.[3] I cannot conceive how he was prevailed on to do it, as I know him to be a thorough believer himself, and averse to every thing that is commonly called *freethinking*. He is now much in his penitentials, and requests me to intercede with you, to procure from the governor a *Nol. Pros.* in his favour, promising to be very circumspect and careful for the future, not to give offence either in religion or politics, to you or any of your friends, in which, I believe, he is very sincere.

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[1] In a letter to M. Dubourg, dated March 27, 1773, Franklin writes: "I apprehend that our poke-weed is what the botanists term *phytolacca*. This plant bears berries as large as peas; the skin is black, but it contains a crimson juice. It is this juice, thickened by evaporation in the sun, which was employed. It caused great pain, but some persons were said to have been cured. I am not quite certain of the facts; all that I know is, that Dr. Colden had a good opinion of the remedy." — ED.

[2] First printed by Sparks.

[3] James Parker, publisher of the *New York Gazette revived in the Weekly Post Boy*. It was founded as *The New York Weekly Post Boy*, January, 1743, and the title was changed January 19, 1747. The article in question appeared April 27, 1752 (No. 485). In it a feigned chief of the Indians exploited the principles of Deism. In the next number (May 4, 1752) appeared the following note: "The Printer of this Paper can't conceive why any Person should be alarm'd. . . . He apprehends the Christian Religion to be built on a better Foundation, than to be moved at any thing can be said against it; — For tho' that Piece is not at all agreeable to his Religious Principles, yet he is willing to give the Advarsaries to Christianity a fair Hearing, and such can

I have let him know, that I pretend to no interest with you, and I fear he has behaved to the governor and to you in such a manner, as not to deserve your favour. Therefore I only beg leave to recommend the poor man's case to your consideration; and, if you could, without inconvenience to your own character, interest yourself a little in his behalf, I shall, as I am much concerned for him, esteem it a very great obligation.

As to the cause of religion, I really think it will be best served by stopping the prosecution; for, if there be any evil tendency apprehended from the publication of that piece, the trial and punishment of the printer will certainly make it a thousand times more public, such is the curiosity of mankind in these cases. It is, besides, an old thing, has been printed before both in England and by Andrew Bradford here; but, no public notice being taken of it, it died and was forgotten, as I believe it would now be, if treated with the same indifference. I am with great respect, &c.

B. FRANKLIN.

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only conduce to make it shine brighter; for it may easily be observed, that those People who pretend to Morality only, are generally more prone to Malice and Vice than others. . . . And as Example pleads more than Precept, he is assured that Christianity has always produced the best; and if it be asked, why Vice and Imorality abound so much at present among nominal Christians; it may be truly answered, that 'tis their Degeneracy from their Principles, and not the Fault of their Religion." — ED.

137. TO EDWARD AND JANE MECOM[1]

Philadelphia, May 21, 1752.

Dear Brother and Sister,

I received yours with the affecting news of our dear good mother's death. I thank you for your long continued care of her in her old age and sickness. Our distance made it impracticable for us to attend her, but you have supplied all. She has lived a good life, as well as a long one, and is happy.

Since I sent you the order on Mr. Huske, I have received his account, and find he thinks he has money to receive, and, though I endeavour by this post to convince him he is mistaken, yet possibly he may not be immediately satisfied, so as to pay that order; therefore, lest the delay should be inconvenient to you, I send the six pistoles enclosed. But, if the order is paid, give those to brother John, and desire him to credit my account with them. Your affectionate brother,

B. Franklin.

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138. TO WILLIAM STRAHAN[2] (P. H. S.)

Philad^{a} June 20. 1752

Dear Sir

I received yours of Jan. 17. with the two Vols. of Viner, in good Order: but the Ship proving leaky; the water got into the Box containing poor Sally's Dressing Glass, by which means the Glue being dissolved, the Frame parted, the Glass dropt out and broke to pieces, and the Wood Work is so twisted and cast out of Shape in drying again, that nothing fits, and the whole is not, in my Opinion worth a farthing; tho' the Surveyors have valu'd it at $\frac{1}{3}$ prime cost. I am thus particular, supposing you insur'd it with the other Goods you then sent, and that possibly something may be recovered towards another.

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[1] From "A Collection of the Familiar Letters, etc., of Benjamin Franklin, Boston, 1833," p. 22.

[2] Original in the Dreer collection, P. H. S. — Ed.

Honest David Martin,[1] Rector of our Academy, my principal Antagonist at Chess is dead, and the few remaining Players here are very indifferent, so that I have now no need of Stammas 12/ Pamphlet, and am glad you did not send it.

By Mesnard, Sally's Books came to hand in good Order: But a 4to Bible with Cuts, charg'd in the Invoice, was not in the Trunk: Instead of it, there was a 2^{d} Vol. of Fosters Nat. Religion in boards, which I keep, having the first.

I am not well enough acquainted with the Book-Sellers in New England to venture recommending, or advising you to deal with any of them unless for ready Cash. In general, the People there are artful to get into Debt, and pay badly. If I should ever make another Journey thither, I could, when on the Spot, judge better of Persons, and perhaps be of some Service.

Enclos'd is a Bill of 50£ Sterling, drawn by Pole & Howell on W^{m} Baker Esqr. Merch London, with a List of Books for the Library Company. As this is the first Time of their Dealing with you, they will inspect the Invoice pretty curiously, therefore I hope you will be careful to procure the Books as cheap as possible. The Company are unacquainted with some of the Books, so that if the whole should come to more than 50 £ with Charges of Insurance, &c. they desire you would omit so many as to bring it within that Sum; for their Money comes in but once a Year, and they do not chuse to lie so long in Debt.

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[1] See p. 62. — ED.

Please to send me another of Popple's Maps of North America, large, on Rollers; a Pair of Mrs. Senex's improv'd Globes, recommended in the Transactions of the Royal Society, (or Neal's improv'd Globes, if thought better than Senex's) the best and largest that may be had for (not exceeding) Eight Guineas. And a concave Mirror or Burning-Glass of about 12 Inches Diameter; with our Account. I send by Mr. Stirling 7 French & 2 English Guineas, and per next Ship, shall send you a Bill.

I am sorry to part with that Gentleman just when we were beginning to be a little acquainted. I wish he had more reason to be satisfied with his Visit to America.

My Wife & Children join in compliments to you & yours, with D^r Sir Your most obliged
humble Serv^t
B. FRANKLIN.

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139. TO SAMUEL JOHNSON, D.D.[1]

Philadelphia, *July* 2, —52.

REV. SIR, — I have sent you, *via* New York, twenty-four of your books bound as those I sent per post. The remainder of the fifty are binding in a plainer manner, and shall be sent as soon as done and left at Mr. Stuyvesant's as you order.

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[1] From "Life and Correspondence of Samuel Johnson, D.D.," by E. Edwards Beardsley, 1874, p. 172. — ED.

Our Academy, which you so kindly inquire after, goes on well. Since Mr. Martin's death the Latin and Greek Schools have been under the care of Mr. Allison, a Dissenting Minister, well skilled in those languages and long practiced in teaching. But he refused the Rectorship, or to have anything to do with the government of the other schools. So that remains vacant, and obliges the Trustees to more frequent visits. We have now several young gentlemen desirous of entering on the study of Philosophy, and lectures are to be opened this week. Mr. Allison undertakes Logic and Ethics, making your work his text to comment and lecture upon. Mr. Peters and some other gentlemen undertake the other branches, till we shall be provided with a Rector capable of the whole, who may attend wholly to the instruction of youth in higher parts of learning as they come out fitted from the lower schools. Our proprietors have lately wrote that they are extremely well pleased with the design, will take our Seminary under their patronage, give us a charter, and, as an earnest of their benevolence, Five Hundred Pounds sterling. And by our opening a Charity School, in which one hundred poor children are taught Reading, Writing, and Arithmetic, with the rudiments of religion, we have gained the general good will of all sorts of people, from whence donations and bequests may be reasonably expected to accrue from time to time. This is our present situation, and we think it a promising one; especially as the reputation of our school increases, the masters being all very capable and diligent and giving great satisfaction to all concerned. I have heard of no exceptions yet made to your work, nor do I expect any, unless to those parts that savor of what is called *Berkeleyanism*, which is not well understood here. When any occur I shall communicate them.

With great esteem and respect, I am, dear Sir,

Your obliged humble serv't

B. FRANKLIN.

140. TO SUSANNA WRIGHT[1] (P. C.)

Philada, July 11, 1752.

MADAM:

I should sooner have answered your Fav'r of the 27th past but that I have been in daily Expectation of getting home the Piece you desired which is lent to a Friend. I hope to have it ready for the next Post.

In mean time I send you two Pamphlets in which you will have the Pleasure to see a most impudent Imposture detected, and the Honour of our great Poet vindicated.[2]

I send also Christianity not founded on Argument, a piece that has made a great noise and received many answers, in a supposition that it favours Infidelity under the Guise of recommending Faith.

We have had excessive hot weather now near two weeks. My Thermometer has been almost every Day at 94 or 95 one at 97 which is but 3 degrees short of the hot Sunday

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[1] From the original in the possession of J. Ewing Mifflin, Esq., of Philadelphia. — ED.

[2] William Lauder, a literary forger, attempted to show that Milton had borrowed his noblest lines from modern writers of Latin verses. In 1750 he published "An Essay on Milton's Use and Imitation of the Moderns in his Paradise Lost," in which he cited plagiaristic paraphrases of eighteen writers. The two pamphlets to which Franklin refers are probably "Milton vindicated from the Charge of Plagiarism," by John Douglas, afterwards Bishop of Salisbury (1750), and "A Letter to the Rev. Mr. Douglas occasioned by his Vindication of Milton," by William Lauder, 1751. — ED.

June 18th 1749. This Town is a mere Oven. How happily situated are our Friends at Hempfield! I languish for the Country, for Air and Shade and Leisure, but Fate has doom'd me to be stifled and roasted and teased to death in a City. You would not regret the want of City conversation if you considered that 9/0 of it is Impertinence.

My Wife joins in tendering our best Respects to you and your good Brothers.[1]

Your intimating to me wherein I can serve you, needs no Apology, as if it were giving me Trouble, for it really affords me Pleasure and therefore a Favour for which I must acknowledge myself

Your obliged Friend
& Servant
B. FRANKLIN.

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141. TO WILLIAM STRAHAN (P. C.)

Philadelphia, August 8, 1752.

DEAR SIR: — I wrote to you on the 20th of June *per* Mr. Sterling (who I hope is by this time safe arrived in England) and sent you a bill of £50 sterling, with a list of books to be procured for our library. Enclosed is a copy of the second bill.

I wrote at the same time for a pair of globes of six or eight guineas price; a concave mirror of twelve inches diameter and a large Popple's map; sent you nine guineas, and promised a bill *per* next ship, which I now accordingly send. It is £20 sterling drawn by Mary Stevens on Alexr. Grant, Esq. When paid please to credit my account with it.

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[1] John and James Wright. — ED.

I have only the first volume of Bower's History of y^e^ Popes. I hear a second is published;[1] please to send it bound, dark sprinkled, filleted, and lettered.

I wrote you a few days since, recommending to your notice an old acquaintance, who is bound home from Maryland to obtain holy orders. His name, Matthias Harris. Any civilities you show him, as he will be an entire stranger in London, I shall gratefully acknowledge. Only I ought to acquaint you that he has always had a strong *penchant* to the buying of books, and that some late misfortunes have rendered it more inconvenient to him to gratify that taste than it has been heretofore.

My wife, son, and daughter desire to be respectfully remembered to you, Mrs. Strahan, and Master Billy. I am, dear sir, your obliged humble servant,

B. Franklin.

142. TO JOHN PERKINS[2]

Philadelphia, Aug. 13, 1752.

Sir,

I received your favour of the 3d instant. Some time last winter I procured from one of our physicians an account of the number of persons inoculated during the five visitations of the small-pox we have had in 22 years; which account I sent to Mr. *W. V.*, of your town, and have no copy. If

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[1] The second volume had been published for a considerable time; the first appeared in 1748, the second in 1750, the third in 1754, the fourth in 1759, the fifth in 1761, and the sixth and seventh in 1766. ("The History of the Popes from the Foundation of the See of Rome to the Present Time. By Archibald Bower, Esq.")

[2] From "Experiments and Observations on Electricity," London, 1769, p. 195.

I remember right, the number exceeded 800, and the deaths were but 4. I suppose Mr. *V*. will shew you the account, if he ever received it. Those four were all that our doctors allow to have died of the small-pox by inoculation, though I think there were two more of the inoculated who died of the distemper; but the eruptions appearing soon after the operation, it is supposed they had taken the infection before in the common way.

I shall be glad to see what Dr. *Douglass* may write on the subject. I have a *French* piece printed at *Paris*, 1724, entitled, *Observations sur la Saignée du Pied, et sur la Purgation, au commencement de la Petite Vérole, et Raisons de doubte contre l'Inoculation.* A letter of the doctor's is mentioned in it. If he or you have it not, and desire to see it, I will send it. Please to favour me with the particulars of your purging method, to prevent the secondary fever.

I am indebted for your preceding letter, but business sometimes obliges one to postpone philosophical amusements. Whatever I have wrote of that kind, are really, as they are entitled, but *Conjectures* and *Suppositions;* which ought always to give place, when careful observation militates against them. I own I have too strong a penchant to the building of hypotheses; they indulge my natural indolence: I wish I had more of your patience and accuracy in making observations, on which, alone, true philosophy can be founded. And, I assure you, nothing can be more obliging to me, than your kind communication of those you make, however they may disagree with my preconceived notions.

I am sorry to hear that the number of your inhabitants decreases. I some time since, wrote a small paper of *Thoughts on the peopling of Countries*, which, if I can find, I will send you, to obtain your sentiments. The favourable opinion you express of my writings, may, you see, occasion you more trouble than you expected from,

Sir, yours, &c.
B. F[RANKLIN.]

143. TO CADWALLADER COLDEN[1]

Philadelphia, September 14, 1752.

DEAR SIR,

When I had read your favour of May the 20th, I resolved to read and consider more carefully Sir Isaac Newton's *Optics*, which I have not looked at these many years. I delayed answering, till I should have an opportunity of doing this, but one thing or other has hitherto hindered. In the winter I may possibly have more leisure.

In the mean time I would just mention, that the interposition of a hill between a bell and the ear does interrupt a great part of the sound, though not all; and we cannot be certain that an opaque body placed between the eye and a luminous object intercepts all the light, since, as you observe, it does not follow that where we see no light there is therefore none existing. What you say of the separation of the distinct parts of light, which, once separated, remain always the same, has more weight with me, and indeed seems conclusive; at least, I see at present nothing to object.

I congratulate you on the prospect you have, of passing the remainder of life in philosophical retirement. I wish for the same, but it seems too distant. I might then more punctually perform my part in the correspondence you honour me with; than which I have none more instructive or agreeable.

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[1] First printed by Sparks.

Send me, if you please, the translation of your piece into High Dutch. I understand a little of the German language, and will peruse and return it. At present I cannot guess the meaning of the passage you mention. Unless perhaps, as your twentieth section speaks of "a power that neither resists nor moves, and exerts no kind of action of itself, without the concurrence of some other power; so that in the absence of other powers it must be in a perfect inaction," &c., it may be some kind of Dutch wit, and intended to joke that *quietism*, which in Germany is supposed to be very prevalent in Pennsylvania, many of their Quietists having removed hither.

I see by Cave's *Magazine*[1] for May, that they have translated my electrical papers into French, and printed them in Paris. I hope our friend Collinson will procure and send me a copy of the translation. Such things should be done by men skilled in the subject, as well as in the language, otherwise great mistakes are easily made, and the clearest matters rendered obscure and unintelligible.

I am sorry you could not see Mr. Kinnersley's Lectures; they would have pleased you. I send you Mr. Wilson's book, which I just received from London, and think it contains the best directions for the use of the machine, that are extant. When you have done with it, please to return it to,

Dear Sir,

Your most humble servant,

B. FRANKLIN.

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[1] *Gentleman's Magazine.* — ED.

144. TO PETER COLLINSON[1]

Electrical Kite

[Philadelphia] Oct. 19, 1752.

SIR,

As frequent mention is made in public papers from *Europe* of the success of the *Philadelphia* experiment for drawing the electric fire from clouds by means of pointed rods of iron erected on high buildings, &c., it may be agreeable to the curious to be informed, that the same experiment has succeeded in *Philadelphia*, though made in a different and more easy manner, which is as follows:

Make a small cross of two light strips of cedar, the arms so long as to reach to the four corners of a large thin silk handkerchief when extended; tie the corners of the handkerchief to the extremities of the cross, so you have the body of a kite; which being properly accommodated with a tail, loop, and string, will rise in the air, like those made of paper; but this being of silk, is fitter to bear the wet and wind of a thunder-gust without tearing. To the top of the upright stick of the cross is to be fixed a very sharp-pointed wire, rising a foot or more above the wood. To the end of the twine, next the hand, is to be tied a silk ribbon, and where the silk and twine join, a key may be fastened. This kite is to be raised when a thunder-gust appears to be coming on, and the person who holds the string must stand within a door or window, or under some cover, so that the silk ribbon may not be wet; and care must be taken that the twine does not touch the frame of the door or window. As soon as any of the thunder-clouds come over the kite, the pointed wire will draw the electric fire from them, and the kite, with all the twine, will be electrified, and the loose filaments of the twine will stand out every way, and be attracted by an approaching finger. And when the rain has wet the kite and twine, so that it can conduct the electric fire freely, you will find it stream out plentifully from the key on the approach of your knuckle. At this key the phial may be charged; and from electric fire thus obtained, spirits may be kindled, and all the other electric experiments be performed, which are usually done by the help of a rubbed glass globe or tube, and thereby the sameness of the electric matter with that of lightning completely demonstrated.

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[1] Read at the Royal Society, December 21, 1752, and printed in the *Gentleman's Magazine*, December, 1752. Printed here from "Experiments and Observations on Electricity," London, 1769, p. 111. — ED.

B. FRANKLIN.

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145. PREFACE TO POOR RICHARD IMPROVED, 1753

(P. H. S.)

COURTEOUS READER

This is the twentieth Time of my addressing thee in this Manner, and I have reason to flatter myself my Labours have not been unacceptable to the Publick. I am particularly pleas'd to understand that my *Predictions of the Weather* give such general Satisfaction; and indeed, such Care is taken in the Calculations, on which those Predictions are founded, that I could almost venture to say, there's not a single One of them, promising *Snow*, *Rain*, *Hail*, *Heat*, *Frost*, *Fogs*, *Wind*, or *Thunder*, but what comes to pass *punctually* and *precisely* on the very Day, in some Place or other on this little *diminutive* Globe of ours; (and when you consider the vast Distance of the Stars from whence we take our Aim, you must allow it no small Degree of Exactness to hit any Part of it) I say on this Globe; for tho' in other Matters I confine the Usefulness of my *Ephemeris* to the *Northern Colonies*, yet in that important matter of the Weather, which is of such *general Concern*, I would have it more extensively useful, and therefore take in both Hemispheres, and all Latitudes from *Hudson's Bay* to *Cape Horn*.

You will find this Almanack in my former Method, only conformable to the *New-stile* established by the Act of Parliament, which I gave you in my last at length; the new Act since made for Amendment of that first Act, not affecting us in the least, being intended only to regulate some Corporation Matters in *England*, before unprovided for. I have only added a Column in the second Page of each Month, containing the Days of the *Old Stile* opposite to their corresponding Days in the *New*, which may, in many Cases, be of Use; and so conclude (believing you will excuse a short Preface, when it is to make Room for something better).

Thy Friend and Servant

R. SAUNDERS.

146. TO EDWARD AND JANE MECOM[1]

Philadelphia, November 14, 1752.

DEAR BROTHER AND SISTER,

Benny[2] sailed from hence this day two weeks, and left our Capes the Sunday following. They are seldom above three weeks on the voyage to Antigua.

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[1] From "A Collection of the Familiar Letters, etc., of Benjamin Franklin, Boston, 1833," p. 24.

[2] Son of Edward and James Mecom. —ED.

That island is reckoned one of the healthiest in the West Indies. My late partner there enjoyed perfect health for four years, till he grew careless, and got to sitting up late in taverns, which I have cautioned Benny to avoid, and have given him all other necessary advice I could think of, relating both to his health and conduct, and I hope for the best.

He will find the business settled to his hand; a newspaper established, no other printing-house to interfere with him, or beat down his prices, which are much higher than we get on the continent. He has the place on the same terms with his predecessor, who, I understand, cleared from five to six hundred pistoles during the four years he lived there. I have recommended him to some gentlemen of note for their patronage and advice.

Mr. Parker, though he looked on Benny as one of his best hands, readily consented to his going, on the first mention of it. I told him Benny must make him satisfaction for his time. He would leave that to be settled by me, and Benny as readily agreed with me to pay Mr. Parker as much as would hire a good journeyman in his room. He came handsomely provided with apparel, and I believe Mr. Parker has, in every respect, done his duty by him, and, in this affair, has really acted a generous part; therefore I hope, if Benny succeeds in the world, he will make Mr. Parker a return beyond what he has promised. I suppose you will not think it amiss to write Mr. and Mrs. Parker a line or two of thanks; for, notwithstanding some little differences, they have on the whole been very kind to Benny.

We have vessels going very frequently from this port to Antigua. You have some too from your port. What letters you send this way, I will take care to forward. Antigua is the seat of government for all the Leeward Islands, to wit, St. Christopher's, Nevis, and Montserrat. Benny will have the business of all those islands, there being no other printer.

After all, having taken care to do *what appears to be for the best*, we must submit to God's providence, which orders all things really for the best.

While Benny was here, and since, our Assembly was sitting, which took up my time, and I could not before write you so fully.

With love to your children, I am, dear brother and sister your affectionate brother,

B. FRANKLIN.

147. TO JOHN FRANKLIN[1] (P. C.)

Philadelphia, December 8, 1752.

DEAR BROTHER,

Reflecting yesterday on your desire to have a flexible catheter, a thought struck into my mind, how one might probably be made; and lest you should not readily conceive it by any description of mine, I went immediately to the silver-smith's and gave directions for making one (sitting by till it was finished) that it might be ready for this post. But now it is done I have some apprehensions that it may be too large to be easy; if so a silver-smith can easily make it less by twisting or turning it on a smaller wire, and putting a smaller pipe to the end, if the pipe is really necessary. This machine may either be covered with small fine gut, first cleaned and soaked a night in a solution of alum and salt and water, then rubbed dry, which will preserve it longer from putrefaction; then wet again and drawn on and tied to the pipes at each end, where little hollows are made for the thread to bind in and the surface greased. Or perhaps it may be used without the gut, having only a little tallow rubbed over it, to smooth it and fill the joints. I think it is as flexible as would be expected in a thing of the kind, and I imagine will readily comply with the turns of the passage, yet has stiffness enough to be protruded; if not, the enclosed wire may be used to stiffen the hinder part of the pipe while the fore part is pushed forward, and as it proceeds the wire may be gradually withdrawn. The tube is of such a nature, that when you have occasion to withdraw it its diameter will lessen, whereby it will move more easily. It is a kind of screw and may be both withdrawn and introduced by turning. Experience is necessary for the right using of all new tools or instruments, and that will perhaps suggest some improvements to this instrument as well as better direct the manner of using it.

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[1] Printed by Mr. Bigelow, Vol. X, p. 264, from the original then in the possession of Dr. F. N. Otis, of New York. — ED.

I have read Whytt on lime-water.[1] You desire my thoughts on what he says. But what can I say? He relates facts and experiments, and they must be allowed good, if not contradicted by other facts and experiments. May not one guess, by holding limewater some time in one's mouth, whether it is likely to injure the bladder?

I know not what to advise, either as to the injection or the operation. I can only pray God to direct you for the best and to grant success.

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[1] Robert Whytt (1714–1766), President of the Royal College of Physicians, of Edinburgh, author of "On the Virtues of Lime Water in the Cure of Stone" (in "Edinburgh Medical Essays," 1743). It was published separately in 1752 — the copy that Franklin read. His treatment for stone was simply lime water and soap. — ED.

I am, my dear brother, yours most affectionately,

B. FRANKLIN.

I found Whytt's experiments are approved and recommended by Dr. Mead.

Dear Brother: — With regard to our father's estate I can only so far inform you that the household stuff as sold at vendue amounted to a little more than $400 but the house and land was apprised at $2,000.

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148. TO CADWALLADER COLDEN[1]

Philadelphia, January 1, 1753.

DEAR SIR,

I have your favour of the third past, with your son's remarks on the Abbé Nollet's *Letters*.[2] I think the experiments and observations are judiciously made, and so well expressed, that, with your and his leave, I would transmit them to Mr. Collinson for publication. I have repeated all the Abbé's experiments *in vacuo*, and find them answer exactly as they should do on my principles, and in the material part quite contrary to what he has related of them; so that he has laid himself extremely open, by attempting to impose false accounts of experiments on the world, to support his doctrine.

M. Dalibard wrote to me that he was preparing an answer, that would be published the beginning of this winter; but, as he seems to have been imposed on by the Abbé's confident assertion, that a charged bottle set down on an electric *per se* is deprived of its electricity, and in his letter to me attempts to account for it, I doubt he is not yet quite master enough of the subject to do the business effectually. So I conclude to write a civil letter to the Abbé myself, in which, without resenting any thing in his letters, I shall endeavour to set the disputed matters in so clear a light, as to satisfy every one that will take the trouble of reading it. Before I send it home, I shall communicate it to you, and take your friendly advice on it. I set out to-morrow on a journey to Maryland, where I expect to be some weeks, but shall have some leisure when I return. At present, I can only add my thanks to your ingenious son, and my hearty wishes of a happy new year to you, and him, and all yours. I am, Sir, &c. B. FRANKLIN.

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[1] First printed by Sparks.

[2] Remarks on the Abbé Nollet's "Letters on Electricity to Benj. Franklin, Esq; of Philadelphia, by Mr. David Colden of New York." ("Experiments and Observations on Electricity," London, 1769, p. 130.) — ED.

P.S. I wrote to you last post, and sent my paper on the *Increase of Mankind.* I send the Supplemental Electrical Experiments in several fragments of letters, of which Cave[1] has made the most, by printing some of them twice over.

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[1] Edward Cave (1691–1754), publisher of the *Gentleman's Magazine*, and of Franklin's papers on electricity. — ED.

149. TO JOHN PERKINS[1] (A. P. S.)

Philada, Feb. 4, 1753.

DEAR SIR,

I ought to have wrote to you long since, in Answer to yours of Oct. 16. concerning the Water-Spout: but Business partly, and partly a Desire of procuring further Information by Inquiry among my Sea-faring Acquaintance, induc'd me to postpone Writing from time to time, till I am now almost asham'd to resume the Subject, not knowing but you may have forgot what has been said upon it.

Nothing certainly can be more improving to a Searcher into Nature, than Objections judiciously made to his Opinions, taken up perhaps too hastily: For such Objections oblige him to re-study the Point, consider every Circumstance carefully, compare Facts, make Experiments, weigh Arguments, and be slow in drawing Conclusions. And hence a sure Advantage results; for he either confirms a Truth, before too slightly supported; or discovers an Error, and receives Instruction from the Objector.

In this View I consider the Objections and Remarks you sent me, and thank you for them sincerely: But how much soever my Inclinations lead me to philosophical Inquiries, I am so engag'd in Business, public and private, that those more pleasing pursuits are frequently interrupted, and the Chain of Thought necessary to be closely continu'd in such Disquisitions, so broken and disjointed, that it is with Difficulty I satisfy myself in any of them; and I am now not much nearer a Conclusion, in this Matter of the Spout, than when I first read your Letter.

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[1] Read at the Royal Society, June 24, 1756. Published in "Experiments and Observations on Electricity," London, 1769, p. 216. Printed here from the original Ms. in A. P. S. — ED.

Yet hoping we may in time sift out the Truth between us, I will send you my present Thoughts, with some Observations on your Reasons on the Acc^{ts} in the *Transactions*, and other Relations I have met with. Perhaps while I am writing some new Light may strike me, for I shall now be oblig'd to consider the Subject with a little more Attention.

I agree with you, that by means of a Vacuum in a Whirlwind, Water cannot be suppos'd to rise in large Masses to the Region of the Clouds: for the Pressure of the surrounding Atmosphere could not force it up in a continu'd Body or Column, to a much greater Height than thirty feet. But if there really is a Vacuum in the Center, or near the Axis of Whirlwinds, then I think Water may rise in such Vacuum to that Height, or to less Height, as the Vacuum may be less perfect.

I had not read Stuart's Acc^{t}. in the *Transactions*, for many Years before the receipt of your Letter, and had quite forgot it; but now, on Viewing his Drafts, and considering his Descriptions, I think they seem to favour *my Hypothesis:* For he describes and draws Columns of Water, of various Heights, terminating abruptly at the Top, exactly as Water would do when forc'd up by the Pressure of the Atmosphere into an exhausted Tube.

I must, however, no longer call it *my Hypothesis*, since I find Stuart had the same Thought, tho' somewhat obscurely express'd, where he says, "he imagines this Phænomenon may be solv'd by Suction (improperly so called), or rather Pulsion, as in the Application of a Cupping-Glass to the Flesh, the Air being first voided by the kindled Flax."

In my Paper, I supposed a Whirlwind and a Spout to be the same Thing, and to proceed from the same Cause; the only Difference between them being, that the one passes over Land, the other over Water. I find also in the *Transactions*, that M. de la Pryme was of the same Opinion; for he there describes two Spouts, as he calls them, which were seen at different Times, at Hatfield in Yorkshire, whose Appearances in the Air were the same with those of the Spouts at Sea, and Effects the same with those of real Whirlwinds.

Whirlwinds have generally a progressive, as well as a circular Motion; so had what is called the Spout at Topsham (see the Acc^{t}. of it in the *Transactions*), which also appears by its effects Described, to have been a real Whirlwind. Water-spouts have likewise a progressive Motion; this is sometimes greater, and sometimes less; in some violent, in others barely perceivable. The Whirlwind at Warrington continu'd long in Acrement Close.

Whirlwinds generally arise after Calms and great Heats: The same is observ'd of Water-Spouts, which are therefore most frequent in the warm Latitudes. The Spout that happen'd in cold Weather, in the Downs, describ'd by Mr. Gordon, in the *Transactions*, was for that reason thought extraordinary; but he remarks withal, that the Weather, tho' cold when the Spout appeared, was soon after much colder; as we find it commonly less warm after a Whirlwind.

You agree that the Wind blows every way towards a Whirlwind, from a large Space round. An intelligent Whaleman, of Nantucket, informed me, that three of their Vessels, which were out in search of Whales, happening to be becalmed lay in Sight of each other, at about a League distance: if I remember right, nearly forming a Triangle;

after some time, a Water-Spout appeared near the Middle of the Triangle, when a brisk Breeze of Wind also sprang up, and every Vessel made Sail; and then it appeared to them all, by the Setting of the Sails, and the Course each Vessel stood, that the Spout was to Leeward of every one of them; and they all declar'd it to have been so, when they happen'd afterwards in Company, and came to confer about it. So that in this Particular likewise, Whirlwinds and Water-Spouts agree.

But if that which appears a Water-Spout at Sea, does sometimes in its progressive Motion, meet with and pass over Land, and there produce all the Phenomena and Effects of a Whirlwind, it should thence seem still more evident, that a Whirlwind and a Spout are the same. I send you, herewith, a Letter from an ingenious Physician of my Acquaintance, which gives one Instance of this, that fell within his observation.

A Fluid, moving from all Points horizontally, towards a Center, must, at that Center, either ascend or descend. Water being in a Tub, if a Hole be open'd in the Middle of the Bottom, will flow from all Sides to the Center, and there descend in a Whirl. But Air flowing on and near the Surface of Land or Water, from all sides toward a Center, must at that Center ascend; the Land or Water hindering its Descent.

If these concentring Currents of Air be in the upper Region, they may indeed descend in the Spout or Whirlwind; but then, when the united Current reach'd the Earth or Water it would spread, and, probably, blow every way *from* the Center. There may be Whirlwinds of both kinds, but, from the commonly observ'd Effects, I suspect the Rising one to be the most common; when the upper Air descends, 'tis, perhaps, in a greater Body extending wider, as in our Thunder-Gusts, and without much whirling; and, when air descends in a Spout, or Whirlwind, I should rather expect it would press the Roof of a House *inwards*, or force *in* the Tiles, Shingles, or Thatch, force a Boat down into the Water, or a Piece of Timber into the Earth, than that it would lift them up, and carry them away.

It has so happen'd, that I have not met with any Accounts of Spouts, that certainly descended; I suspect they are not frequent. Please to communicate those you mention. The apparent dropping of a Pipe from the Clouds towards the Earth or Sea, I will endeavour to explain hereafter.

The Augmentation of the Cloud, which, as I am inform'd, is generally if not always the case, during a Spout, seems to show an Ascent rather than a Descent of the Matter of which such Cloud is composed. For a descending Spout, one would expect should diminish a Cloud. I own, however, that descending cold air, may, by Condensing the Vapours in a lower Region, form and increase Clouds; which, I think, is generally the Case in our common Thunder-Gusts, and, therefore, do not lay great Stress on this Argum^{t}.

Whirlwinds and Spouts are not always tho' most commonly in the Day time. The terrible Whirlwind, which damag'd a great part of Rome, June 11. 1749 happen'd in the Night of that Day. The same was supposed to have been first a Spout, for it is said to be beyond doubt, that it gathered in the neighbouring Sea, as it could be tracked from Ostia to Rome. I find this in Père Boschovich's Acc^{t} of it, as abridg'd in the *Monthly Review* for December 1750:

In that Acc^{t}, the Whirlwind is said to have appeared as a very black, long, and lofty Cloud, discoverable, notwithstanding the Darkness of the Night, by its continually lightning or emitting Flashes on all Sides, pushing along with a surprizing Swiftness, and within 3 or 4 feet of the Ground. Its general Effects on Houses were, stripping off the Roofs, blowing away Chimneys, breaking Doors and Windows, *forcing up the Floors, and unpaving the Rooms*, (some of these Effects seem to agree well with a supposed Vacuum in the Center of the Whirlwind,) and the very Rafters of the Houses were broke and dispersed, and even hurled against Houses at a considerable Distance, &c.

It seems, by an Expression of Père Boschovich's, as if the Wind blew from all sides towards this Whirlwind; for having carefully observ'd its Effects, he concludes of all Whirlwinds, "that their Motion is circular, and their Action attractive."

He observes, on a Number of Histories of Whirlwinds, &c., "that a common Effect of them is to carry up into the Air, Tiles, Stones and Animals themselves, which happen to be in their Course, and all kinds of Bodies unexceptionably, throwing them to a considerable Distance, with great Impetuosity."

Such Effects seem to show a rising Current of Air.

I will endeavour to explain my Conceptions of this Matter, by Figures, representing a Plan, and an Elevation of a Spout or Whirlwind.

I would only first beg to be allowed two or three Positions, mentioned in my former Paper.

1. That the lower Region of Air is often more heated, and so more rarified, than the upper; consequently, specifically lighter. The Coldness of the upper Region is mani-

fested by the Hail, which sometimes falls from it in a hot Day.

2. That heated Air may be very moist, and yet the Moisture so equally diffus'd and rarified, as not to be visible, till colder Air mixes with it, when it condenses, and becomes visible. Thus our Breath, invisible in Summer, becomes visible in Winter.

Now let us suppose a Tract of Land or Sea of perhaps 60 Miles square, unscreen'd by Clouds, and unfann'd by Winds, during great Part of a Summer's Day, or it may be for several Days successively, till 'tis violently heated, together with the lower Region of Air in Contact with it, so that the said lower Air becomes specifically lighter than the Superincumbent higher Region of the Atmosphere, in which the Clouds commonly float; let us suppose, also, that the Air surrounding this Tract has not been so much heated during those Days, and therefore remains heavier. The Consequence of this should be, as I imagine, that the heated, lighter Air, being press'd on all sides, must ascend, and the heavier descend; and as this Rising cannot be in all Parts, or the whole Area of the Tract at once, for that would leave too extensive a Vacuum, the Rising will begin precisely in that Column that happens to be the lightest, or most rarified; and the warm Air will flow horizontally from all Points to this Column, where the several currents meeting, and joining to rise, a Whirl is naturally formed, in the same Manner as a Whirl is formed in the Tub of Water, by the descending Fluid flowing from all Sides of the Tub to the Hole in the Center.

And as the several Currents arrive at this central rising Column with a considerable Degree of horizontal Motion, they cannot suddenly change it to a vertical Motion, therefore as they gradually, in approaching the Whirl decline from right to curve, or circular Lines, so having join'd the Whirl, they *ascend* by a spiral Motion, in the same Manner as the Water *descends* spirally, thro' the Hole in the Tub before mentioned.

Lastly, as the lower Air, and nearest the Surface, is most rarified by the Heat of the Sun, that Air is most acted on by the Pressure of the surrounding cold and heavy Air, which is to take its Place; consequently its Motion tow'ds the Whirl is swiftest, and so the force of the lower Part of the Whirl, or Trump, strongest, and the Centrifugal Force of its Particles greatest; and hence the Vacuum round the Axis of the Whirl should be greatest near the Earth or Sea, and be gradually diminish'd as it approaches the Region of the Clouds, till it ends in a Point, as at [*A*, in Fig. II,] forming a long and sharp Cone.

In Fig. 1, which is a Plan or Ground-Plot of a Whirlwind, the Circle *V* represents the central Vacuum.

Between *a a a a* and *b b b b*, I suppose a Body of Air, condens'd strongly, by the Pressure of the Currents moving towards it from all sides without, and by its Centrifugal Force from within, moving round with prodigious Swiftness, (having, as it were, the Momenta of all the Currents,——> ——> ——> ——>, united in itself), and with a Power equal to its Swiftness and Density.

It is This whirling Body of Air between *a a a a* and *b b b b* that rises spirally; by its Force it tears Buildings to Pieces, twists up great Trees by the Roots, &c., and, by its spiral Motion, raises the Fragments so high, till the Pressure of the surrounding and approaching Currents diminishing can no

WATER SPOUT.

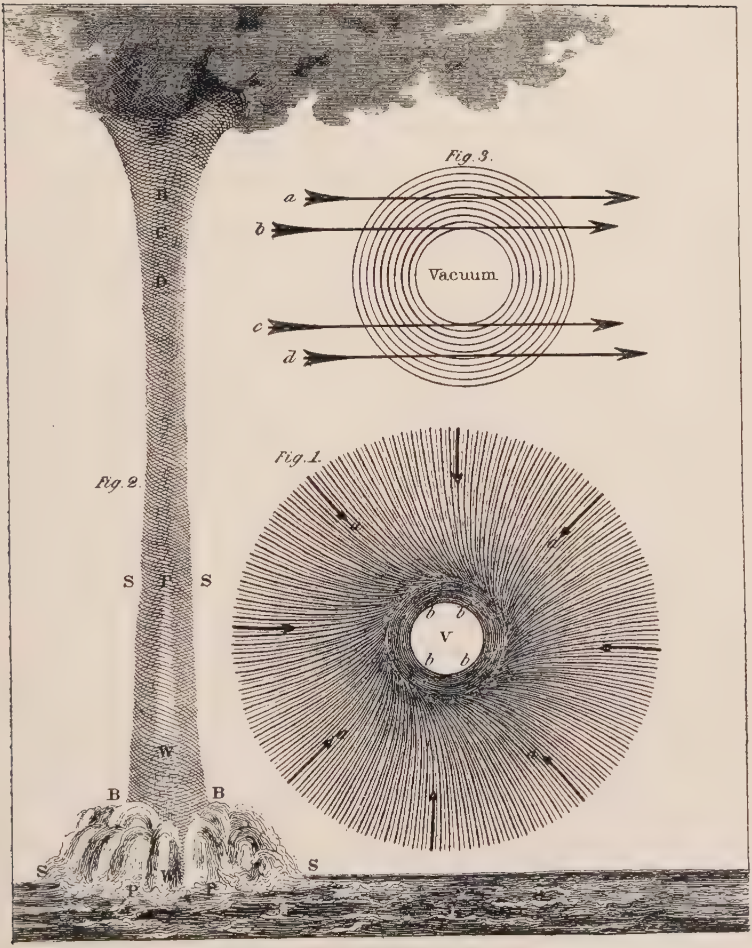
Fig. 3.
a
b
Vacuum
c
d
Fig. 1.
a
d
b b
V
b b
a
d
Fig. 2.
B
C
D
S P S
W
B B
S P W P S

longer confine them to the Circle, or their own centrifugal Force, encreasing, grows too strong for such Pressure, when they fly off in Tangent Lines, as Stones out of a Sling, and fall on all Sides, and at great Distances.

If it happens at Sea, the Water between *a a a a* and *b b b b* will be violently agitated and driven about, and parts of it raised with the spiral Current, and thrown about so as to form a Bush-like Appearance.

This Circle is of various Diameters, sometimes very large.

If the Vacuum passes over Water the Water may rise in it in a Body or Column, to near the Height of 32 feet.

If it passes over Houses, it may burst their Windows or Walls outwards, pluck off the Roofs and blow up the Floors, by the sudden Rarefaction of the Air contain'd within such Buildings, the outward Pressure of the Atmosphere being suddenly taken off. So the stop'd Bottle of Air bursts under the exhausted Receiver of the Air-Pump.

Fig. II is to represent the Elevation of a Water-Spout, wherein I suppose *P P P* to be the Cone, at first a Vacuum, till *W W*, the rising Column of Water, has fill'd so much of it. *S S S S*, the Spiral Whirl of Air, surrounding the Vacuum, and continu'd higher in a close Column after the Vacuum ends in the Point *P*, till it reach the cool Region of the Air. *B B*, the Bush, describ'd by Stuart, surrounding the Foot of the Column of Water.

Now I suppose this Whirl of Air will, at first, be as invisible as the Air itself, tho' reaching in reality from the Water to the Region of cool Air, in which our low Summer Thunder-Clouds commonly float; but presently it will become visible at its Extremities. *At its lower End*, by the Agitation of the Water under the Whirling Part of the Circle, between *P* and *S*, forming Stuart's Bush, and by the Swelling and Rising of the Water in the beginning Vacuum, which is at first a small, low, broad Cone, whose Top gradually rises and sharpens, as the Force of the Whirl increases. *At its upper End* it becomes visible, by the warm Air brought up to the cooler Region, where its Moisture begins to be condens'd into thick Vapour by the Cold, and is seen first at *A*, the highest Part, which being now cool'd, condenses what rises next at *B*, which condenses that at *C*, and that condenses what is rising at *D*. The Cold operating by the Contact of the Vapours faster in a right Line downwards, than the Vapours themselves can climb in a spiral Line upwards; they climb, however, and, as by continual Addition they grow denser, and consequently their centrifugal Force greater, and being risen above the concentrating Currents that compose the Whirl, they flie off, spread, and form a Cloud.

It seems easy to conceive, how by this successive Condensation from above, the Spout appears to drop or descend from the Cloud, tho' the Materials of which it is composed are all the while ascending.

The Condensation of the Moisture, contain'd in so great a Quantity of warm Air as may be suppos'd to rise in a short Time in this prodigiously rapid Whirl, is, perhaps sufficient to form a great Extent of Cloud, tho' the Spout should be over Land, as those at Hatfield; and if the Land happens not to be very dusty, perhaps the lower Part of the Spout will scarce become visible at all; Tho' the upper, or what is commonly call'd the descending Part, be very distinctly seen.

The same may happen at Sea, in case the Whirl is not violent enough to make a high Vacuum, and raise the

Column, &c. In such Case, the upper Part *A B C D* only will be visible, and the Bush perhaps below.

But if the Whirl be strong, and there be much Dust on the Land, and the Column *W W* be rais'd from the Water, then the lower Part becomes visible, and sometimes even united to the upper Part. For the Dust may be carried up in the spiral Whirl, till it reach the Region where the Vapour is condens'd, and rise with that even to the Clouds. And the Friction of the Whirling Air, on the Sides of the Column *W W*, may detach great Quantities of its Water, break it into Drops, and carry them up in the Spiral Whirl, mix'd with the Air; the heavier Drops may indeed fly off, and fall in a Shower, round the Spout; but much of it will be broken into Vapour, yet visible; and thus in both Cases by Dust at Land, and by Water at Sea, the whole Tube may be darkned and render'd visible.

As the Whirl weakens, the Tube may (in Appearance) separate in the Middle; the Column of Water subsiding, and the superior condens'd Part drawing up to the Cloud. Yet still the Tube or Whirl of Air, may remain entire, the middle only becoming invisible, as not containing visible Matter.

Dr. Stuart says, "It was observable of all the Spouts he saw, but more perceptible of the great one, that towards the End it began to appear like a hollow Canal, only black in the Borders, but white in the Middle; and, tho' at first it was altogether black and opaque, yet now one could very distinctly perceive the Sea Water to fly up along the Middle of this Canal, as Smoak up a Chimney."

And Dr. Mather, describing a Whirlwind, says, "A thick dark small Cloud arose, with a Pillar of Light in it, of about

8 or 10 feet Diam., and passed along the Ground in a Tract not wider than a Street, horribly tearing up Trees by the Roots, blowing them up in the Air like Feathers, and throwing up Stones of great Weight to a considerable Height in the Air," &c.

These Acc^ts^, the one of Water-Spouts, the other of a Whirlwind, seem in this particular to agree; what one gentleman describes as a Tube, black in the Borders, and white in the middle; the other calls a black Cloud, with a Pillar of Light in it; the latter Expression has only a little more of the marvellous, but the Thing is the same. And it seems not very difficult to understand. When Dr. Stuart's Spouts were full charg'd; that is, when the Whirling Pipe of Air was filled between *a a a a* and *b b b b*, Fig. 1, with Quantities of Drops, and Vapour torn off from the Column *W W*, Fig. 2, the whole was render'd so dark as that it could not be seen thro', nor the Spiral ascending Motion discover'd; but when the Quantity ascending lessen'd, the Pipe became more transparent, and the ascending Motion visible. For, by Inspection of this Figure, [Fig. 3,] representing a Section of our Spout, with the Vacuum in the Middle, it is plain, that if we look at such a hollow Pipe, in the Direction of the Arrows, and suppose opacous Particles to be equally mix'd in the Space between the two circular Lines, both the Part between the Arrows *a* and *b*, and that between the Arrows *c* and *d*, will appear much darker than that between *b* and *c*, as there must be many more of those opaque Particles in the Line of Vision, across the Sides, than across the Middle. It is thus, that a Hair in a Microscope evidently appears to be a Pipe, the Sides shewing darker than the Middle. Dr. Mather's Whirl was probably fill'd with Dust, the Sides were very dark, but the Vacuum within rendering the Middle more transparent, he calls it a Pillar of Light.

It was in this more transparent Part between *b* and *c*, that Stuart could see the spiral Motion of the Vapours, whose Lines on the nearest and farthest Side of the transparent Part crossing each other, represented Smoke ascending in a Chimney; for the Quantity being still too great in the Line of Sight thro' the Sides of the Tube, the Motion could not be discover'd there, and so they represented the solid Sides of the Chimney.

When the Vapours reach in the Pipe from the Clouds near to the Earth, it is no wonder now to those who understand Electricity, that Flashes of Lightning should descend by the Spout, as in that at Rome.

But you object, If Water may be thus carried into the Clouds, why have we no salt Rains? The objection is strong and reasonable, and I know not whether I can answer it to your Satisfaction. I never heard but of one salt Rain, and that was where a Spout passed pretty near a Ship; so I suppose it to be only the Drops thrown off from the Spout, by the centrifugal Force (as the Birds were at Hatfield), when they had been carried so high as to be above, or to be too strongly centrifugal for, the Pressure of the concurring Winds surrounding it. And indeed I believe there can be no other kind of Salt Rain; for it has pleased the Goodness of God so to order it, that the Particles of Air will not attract the Particles of Salt, tho' they strongly attract Water.

Hence, tho' all Metals, even Gold, may be united with Air, and render'd volatile, Salt remains fix'd in the Fire, and no Heat can force it up to any considerable Height, or oblige the Air to hold it. Hence when Salt rises as it will a little way, into Air with Water, there is instantly a Separation made; the Particles of Water adhere to the Air, and the Particles of Salt fall down again, as if repell'd and forc'd off from the Water by some Power in the Air; or, as some Metals, dissolv'd in a proper Menstruum, will quit the Solvent when other Matter approaches, and adhere to that, so the Water quits the Salt, and embraces the Air; but Air will not embrace the Salt, and quit the Water. Otherwise our Rains would indeed be Salt, and every Tree and Plant on the Face of the Earth be destroy'd, with all the Animals that depend on them for Subsistence. He who hath proportioned and given proper Qualities to all Things, was not unmindful of this. Let us adore HIM with Praise and Thanksgiving!

By some Accounts of Seamen, it seems the Column of water, *W W*, sometimes falls suddenly; and if it be, as some say, 15 or 20 yds Diameter, it must fall with great Force, and they may well fear for their Ships. By one Acc^{t}, in the *Transactions*, of a Spout that fell at Coln in Lancashire, one would think the Column is sometimes lifted off from the Water, and carried over Land, and there let fall in a Body; but this, I suppose, happens rarely.

Stuart describes his Spouts as appearing no bigger than a Mast, and sometimes less; but they were at a League and half Distance.

I think I formerly read in Dampier, or some other Voyager, that a Spout, in its progressive Motion, went over a Ship becalmed on the Coast of Guinea, and first threw her down on one Side, carrying away her Foremast, then suddenly whipt her up, and threw her down on the other Side, carrying away her Mizen-Mast, and the whole was over in an Instant. I suppose the first Mischief was done by the fore side of the Whirl, the latter by the hinder Side, their Motion being contrary.

I suppose a Whirlwind, or Spout, may be stationary, when the concurring Winds are equal; but if unequal, the Whirl acquires a progressive Motion, in the direction of the Strongest Pressure.

When the Wind that gives the progressive Motion becomes stronger below than above, or above than below, the Spout will be bent, and, the Cause ceasing, straiten again.

Your Queries, towards the End of your Paper, appear judicious and worth considering. At present I am not furnish'd with Facts sufficient to make any pertinent Answer to them; and this Paper has already a sufficient Quantity of Conjecture.

Your manner of accommodating the Acc^{ts} to your Hypothesis of descending Spouts is, I own, ingenious, and perhaps that Hypothesis may be true. I will consider it farther; but As yet I am not satisfy'd with it, tho' hereafter I may be.

Here you have my Method of Accounting for the principal Phænomena, which I submit to your candid Examination.

If my Hypothesis is not the Truth itself it is least as naked: For I have not with some of our learned Moderns, disguis'd my Nonsense in Greek, cloth'd it in Algebra or adorn'd it with Fluxions. You have it in puris naturalibus. And as I now seem to have almost written a Book, instead of a letter, you will think it high time I should conclude; which I beg leave to do, with assuring you, that I am, most sincerely,

D^{r} Sir, etc. B. FRANKLIN.

150. TO JAMES BOWDOIN[1]

Philadelphia, February 28, 1753.

DEAR SIR,

The enclosed is a copy of a letter and some papers I received lately from a friend, of which I have struck off fifty copies by the press, to distribute among my ingenious acquaintance in North America, hoping some of them will make the observations proposed. The improvement of geography and astronomy is the common concern of all polite nations, and I trust our country will not miss the opportunity of sharing in the honour to be got on this occasion. The French originals are despatched by express overland to Quebec. I doubt not but you will do what may lie in your power, to promote the making these observations in New England, and that we may not be excelled by the American French, either in diligence or accuracy. We have here a three-foot reflecting telescope, and other proper instruments; and intend to observe at our Academy, if the weather permit. You will see, by our Almanac, that we have had this transit under consideration before the arrival of these French letters.[2]

Dr. Colden's book was printed in England last summer, but not to be published till the meeting of Parliament. I have one copy, however, which I purpose shortly to send you.

With great esteem and respect, I am, Sir,

Your most humble servant,

B. FRANKLIN.

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[1] First published by Sparks.

[2] The paper alluded to, of which fifty copies were struck off for distribution, was entitled, "*Letters relating to a Transit of Mercury over the Sun, which is to happen May 6th, 1753.*" — ED.

151. TO JARED ELIOT (L. L.)

Philada, Apr. 12, 1753.

DEAR SIR,

I received your favour of March 26th, and thank you for communicating to me the very ingenious letter from your friend, Mr. Todd, with whom, if it may be agreeable to him, I would gladly entertain a correspondence. I shall consider his objections till next post.[1]

I thank you for your hint concerning the word *adhesion*, which should be defined. When I speak of particles of water *adhering* to particles of air, I mean not a firm adhesion, but a loose one, like that of a drop of water to the end of an icicle before freezing. The firm adhesion is after it is frozen.

I conceive that the original constituent particles of water are perfectly *hard*, *round*, and *smooth*. If so, there must be interstices, and yet the mass incompressible. A box filled with small shot has many interstices, and the shot may be compressed because they are not perfectly hard. If they were, the interstices would remain the same, notwithstanding the greatest pressure, and would admit sand, as water admits salt.

Our vessel, named the Argo, is gone for the northwest passage; and the captain has borrowed my Journals of the last voyage, except one volume of a broken set, which I send you. I enclose a letter from our friend, Mr. Collinson, and am promised some speltz, which I shall send per next post.

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[1] See Letter to Eliot, May 3, 1753. — Ed.

The *Tatler* tells us of a Girl, who was observed to grow suddenly proud, and none cou'd guess the Reason, till it came to be known that she had got on a new Pair of Garters. Lest you should be puzzled to guess the Cause, when you observe any Thing of the kind in me, I think I will not hide my new Garters under my Petticoats, but take the Freedom to show them to you, in a Paragraph of our friend Collinson's Letter, viz. — But I ought to mortify, and not indulge, this Vanity; I will not transcribe the Paragraph, yet I cannot forbear.

"If any of thy Friends," says Peter, "should take Notice that thy Head is held a little higher up than formerly, let them know; when the *Grand Monarch of France* strictly commands the *Abbé Mazéas* to write a Letter in the politest Terms to the Royal Society, to return the King's Thanks and Compliments in an express Manner to *Mr. Franklin* of *Pennsylvania*, (Pensilvania) for the useful Discoveries in Electricity, and Application of the pointed Rods to prevent the terrible Effects of Thunder-storms, I say, after all this, is not some Allowance to be made, if thy Crest is a little elevated? There are four Letters containing very curious Experiments on thy Doctrine of Points, and its Verification, which will be printed in the New Transactions. I think, now I have stuck a Feather in thy Cap, I may be allowed to conclude in wishing thee long to wear it. Thine, P. COLLINSON."

On reconsidering this Paragraph, I fear I have not so much Reason to be proud as the Girl had; for a Feather in the Cap is not so useful a Thing, or so serviceable to the Wearer, as a Pair of good silk Garters. The Pride of Man is very differently gratify'd; and, had his Majesty sent me a marshal's staff, I think I should scarce have been so proud of it, as I am of your Esteem, and of subscribing myself, with Sincerity, dear Sir,

Your affectionate friend and humble servant,

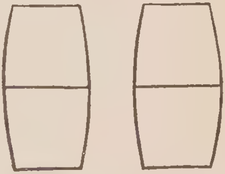
B. FRANKLIN.

152. TO JAMES BOWDOIN[1]

Philadelphia, April 12, 1753.

SIR,

I have shipped eighteen glass jars in casks well packed, on board Captain Branscombe for Boston; six of them are for you, the rest I understand are for the College. Leaf tin, such as they use in silvering looking-glasses, is best to coat them with; they should be coated to within about four or five inches of the brim. Cut the tin into pieces of the form here represented, and they will comply better with the bellying of the glass; one piece only should be round to cover the bottom; the same shapes will serve the inside. I had not conveniency to coat them for you, and feared to trust anybody else, Mr. Kinnersley being abroad in the West Indies. To make the pieces comply the better, they may be cut in two where the cross lines are. They reach from the top to the edge of the round piece which covers the bottom. I place them in loose rims of scabboard, something like a small sieve, in which they stand very well. If you charge more than one or two together, pray take care



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[1] First printed by Sparks from the original then in the possession of Mr. Thomas L. Winthrop. — ED.

how you expose your head to an accidental stroke; for, I can assure you from experience, one is sufficient to knock a stout man down; and I believe a stroke from two or three, in the head, would kill him.

Has Dr. Colden's new book reached you in Boston? If not, I will send it to you.

With great respect, I am, Sir,

Your most humble servant,

B. FRANKLIN.

P. S. The glass-maker being from home, I cannot now get the account. The tin is laid on with common paste, made of flour and water boiled together, and the pieces may lap over each other a little.

153. TO WILLIAM SMITH[1]

Philadelphia, April 19, 1753.

SIR,

I received your favour of the 11th instant, with your new piece on *Education*,[2] which I shall carefully peruse, and give you my sentiments of it, as you desire, by next post.

[I believe the young gentlemen, your pupils, may be entertained and instructed here, in mathematics and philosophy to satisfaction. Mr. Alison,[3] who was educated at Glasgow, has been long accustomed to teach the latter, and Mr.

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[1] From "The Life and Correspondence of the Rev. William Smith, D.D.," by H. W. Smith, Philadelphia, 1879, Vol. I, p. 23. The paragraph in brackets is not found in the original letter. Rev. William Smith became Provost of the Academy in 1755. See "A History of the University of Pennsylvania" by T. H. Montgomery, Philadelphia, 1900, pp. 185–208. — ED.

[2] A General Idea of the College of Mirania.

[3] The Rev. Francis Alison, Vice-Provost of the Academy in Philadelphia, in 1755.

Grew[1] the former, and I think their pupils make great progress. Mr. Alison has the care of the Latin and Greek school; but, as he has now three good assistants,[2] he can very well afford some hours every day for the instruction of those, who are engaged in higher studies. The mathematical school is pretty well furnished with instruments. The English Library is a good one, and we have belonging to it a middling apparatus for experimental philosophy, and purpose speedily to complete it. The Loganian Library, one of the best collections in America, will shortly be opened; so that neither books nor instruments will be wanting; and, as we are determined always to give good salaries, we have reason to believe we may have always an opportunity of choosing good masters; upon which, indeed, the success of the whole depends. We are obliged to you for your kind offers in this respect; and, when you are settled in England, we may occasionally make use of your friendship and judgment.]

If it suits you to visit Philadelphia, before your return to Europe, I shall be extremely glad to see and converse with you here, as well as to correspond with you after your settlement in England. For an acquaintance and communication with men of learning, virtue, and public spirit, is one of my greatest enjoyments.

I do not know whether you ever happened to see the first proposals I made for erecting this Academy. I send them enclosed. They had, (however imperfect,) the desired success, being followed with a subscription of *four thousand pounds* towards carrying them into execution. And as we are fond of receiving advice, and are daily improving by experience, I am in hopes we shall, in a few years, see a *perfect institution.* I am, very respectfully, &c.

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[1] Theophilus Grew, "Mathematical Professor at the Academy in Philadelphia."

[2] Those assistants were at that time Charles Thomson, afterwards Secretary of Congress, Paul Jackson, and Jacob Duché. — STUBER.

B. Franklin.

Mr. William Smith
Long Island [near New York]

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154. TO JARED ELIOT[1] (Y.) and (L. L.)

Philada May 3, 1753.—

Dear Sir,

I received your Essay last Post, and my Presses being at present engag'd in some publick Work that will not admit of Delay, I have engag'd M^{r} Parker to print it out of hand at New York. You may expect to see it done in two or three weeks. The Pacquet was not seal'd, and I observ'd that the Tables showing the Culture of Sundry Fields were not with the rest of Mr Jacksons Papers. Perhaps you did not design them for the Press.

I wish the Barbary Barley may grow. I have some of it, and have sow'd it; but it seem'd to me to have been cut too green. I have formerly heard it reckon'd the finest Barley in the World, and that it makes a great Part of the Food of the Inhabitants.

I think I have never been more hurried in Business than at present; yet I will steal a few Minutes, to make an Observation or two on M^{r} Todd's Ingenious Letter to you.

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[1] The original letter is in the Library of Yale University; a fragment is in the Lenox Library. I have placed the portion contained in the L. L. Manuscript within brackets.—Ed.

[1. THE supposing a mutual Attraction between the Particles of Water and Air is not introducing a new Law of Nature; such Attractions taking place in many other known Instances.

2. Water is specifically 850 times heavier than Air. To render a Bubble of Water, then, specifically lighter than Air, it seems to me, that it must take up more than 850 times the Space it did before it form'd the Bubble; and within the Bubble should be either a Vacuum, or Air rarefied more than 850 times. If a Vacuum, would not the Bubble be immediately crush'd by the Weight of the Atmosphere? And no Heat we know of will rarefy Air any thing near so much; much less the common Heat of the Sun, or that of Friction, by the Dashing on the Surface of the Water. Besides, Water agitated ever so violently produces no Heat, as has been found by accurate Experim^{ts}.

3. A Hollow Sphere of Lead has a Firmness and Consistency in it, that a hollow Sphere or Bubble of Fluid, unfrozen Water cannot be suppos'd to have. The Lead may support the Pressure of the Water it is immerg'd in, but the Bubble could not support the pressure of the Air, if empty within.

4. Was ever a visible Bubble seen to rise in Air? I have made many, when a Boy, with Soap-Suds and a Tobacco-Pipe; but they all descended when loose from the Pipe, tho' slowly, the Air impeding their Motion. They may indeed be forc'd up by a Wind from below, but do not rise of themselves, tho' filled with warm Breath.

5. The Objection relating to our Breathing moist Air seems weighty, and must be farther considered. The Air that has been breath'd has, doubtless, acquir'd an Addition

of the perspirable Matter which Nature intends to free the Body from, and which would be pernicious if retain'd and return'd into the Blood; such Air then may become unfit for Respiration, as well for that reason, as on Acc^t of its Moisture. Yet I should be glad to learn, by some accurate Experiment, whether a Draft of Air, two or three times inspired and expired, perhaps in a Bladder, has or has not acquired more Moisture than our common Air in the Dampest Weather. As to the Precipitation of Water in the Air we breathe, perhaps it is not always a Mark of that Air's being overloaded. In the Region of the Clouds, indeed, the Air must be overloaded, if it let fall its Water in Drops, which we call Rain; but those Drops may fall thro' a dryer Air near the Earth; and accordingly we find, that the Hygroscope sometimes shows a less Degree of Moisture during a Shower, than at other times when it does not rain at all. The dewy Dampness, that settles on the Insides of our Walls and Wainscots, seems more certainly to denote an Air overloaded with Moisture; and yet this is no sure Sign; for after a long-continu'd cold Season, if the Air grows suddenly warm, the Walls, &c. continuing longer their Coldness, will, for some time condense the Moisture of such Air, till they grow equally warm, and then they condense no more, tho' the Air is not become dryer. And, on the other Hand, after a warm Spell, if the Air grow cold, tho' moister than before, the Dew is not so apt to gather on the Walls. A Tankard of cold Water will, in a hot and dry Summer's Day, collect a Dew on its outside; a Tankard of hot Water will collect none in the moistest Weather.

6. 'Tis, I think, a Mistake, that the Trade-Winds blow only in the Afternoon. They blow all Day and all Night,

and all the Year round, except in some particular Places. The Southerly Sea-Breezes on your Coast, indeed blow chiefly in the Afternoon. In the very long Run from the West Side of America to Guam, among the Philippine Islands, Ships seldom have Occasion to hand their Sails, so equal and steady is the Gale, and yet they make it in about 60 Days, w^{ch} could not be if the Wind blew only in the Afternoon.

7. That really is, which the Gentleman justly supposes ought to be on my Hypothesis. In Sailing Southward, when you first enter the Trade Wind, you find it North-East, or thereabouts, and it gradually grows more East as you approach the Line. The same Observation is made of its changing from S. East to East gradually, as you come from the Southern Latitudes to the Equator.] I have not yet had Time to transcribe my Paper on the Increase of Mankind, but hope to do it shortly, and shall be glad of yours and Mr. Todd's Sentiments on it. I am very affectionately, D^{r} Sir etc. B. F.

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155. TO WILLIAM SMITH[1]

Philadelphia, May 3, 1753.

SIR,

Mr. Peters has just now been with me, and we have compared notes on your new piece. We find nothing in the scheme of education, however excellent, but what is in our opinion very practicable. The great difficulty will be, to find the Arastus,[1] and other suitable persons, in New

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[1] Printed from H. W. Smith's "Life and Correspondence of William Smith," Vol. I, p. 25. — ED.

[2] The name given to the principal or head of the ideal college, the system

York to carry it into execution; but such may be had if proper encouragement be given. We have both received great pleasure in the perusal of it. For my part, I know not when I have read a piece that has more affected me; so noble and just are the sentiments, so warm and animated the language; yet, as censure from your friends may be of more use, as well as more agreeable to you, than praise, I ought to mention, that I wish you had omitted, not only the quotation from the Review,[1] which you are now justly dissatisfied with, but those expressions of resentment against your adversaries, in pages 65 and 79. In such cases, the noblest victory is obtained by neglect, and by shining on.

Mr. Allen has been out of town these ten days; but before he went he directed me to procure him six copies of your piece tho' he had not and has not yet seen it. Mr. Peters has taken ten. He purposed to have written to you, but omits it, as he expects so soon to have the pleasure of seeing you here. He desires me to present his affectionate compliments to you, and to assure you that you will be very welcome to him. I shall only say, that you may depend on my doing all in my power to make your visit to Philadelphia agreeable to you.[2]

Yet methinks I would not have you omit bringing a line or two from Mr. Allen. If you are more noticed here on

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of education in which has nevertheless been nearly realized, or followed as a model, in the College and Academy of Philadelphia, and some other American seminaries, for many years past. — STUBER.

[1] The quotation alluded to (from the *London Monthly Review* for 1749) was judged to reflect too severely on the discipline and government of the English Universities of Oxford and Cambridge, and was expunged from the following editions of this work. — STUBER.

[2] At this point the letter as printed by Sparks and others ends. The original among the Smith papers proceeds. — ED.

account of his recommendation, yet as that recommendation will be founded upon your merit, known best where you have so long resided, their notice may be esteemed to be as much "on the score of something you can call your own," as if it were merely on account of the pieces you have written. I shall take care to forward your letter to Mr. Miller by a vessel that sails next week. I proposed to have sent one of the books to Mr. Cave, but as it may possibly be a disappointment to Mr. Miller if Cave should print it, I shall forbear, and only send two or three to some particular friends. I thank you for your information concerning the author of the dialogues. I had been misinformed; but saw with concern, in the public papers last year, an article of news relating that one Mr. Fordyce, the ingenious author of "Dialogues on Education" perished by shipwreck on the coast of Holland, in returning home from his tour to Italy.[1] The sermon on the "Eloquence of the Pulpit" is ascribed, in the *Review* of August 1752, to Mr. James Fordyce,[2] minister at Brechin.

I am, with great esteem, Sir, etc

B. FRANKLIN.

156. TO RICHARD JACKSON[3] (B. M.)

Philadelphia, May 5, 1753.

SIR,

I thank you for the kind and judicious remarks you have made on my little piece. I have often observed with wonder that temper of the poorer English labourers which you mention, and acknowledge it to be pretty general. When any of them happen to come here, where labour is much better paid than in England, their industry seems to diminish in equal proportion. But it is not so with the German labourers; they retain the habitual industry and frugality they bring with them, and, receiving higher wages, an accumulation arises that makes them all rich. When I consider, that the English are the offspring of Germans, that the climate they live in is much of the same temperature, and when I see nothing in nature that should create this difference, I am tempted to suspect it must arise from constitution; and I have sometimes doubted whether the laws peculiar to England, which *compel the rich to maintain the poor*, have not given the latter a dependence, that very much lessens the care of providing against the wants of old age.

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[1] David Fordyce (1711–1751) was shipwrecked September, 1751. See his epitaph in the *Gentleman's Magazine*, Vol. LXVI, Pt. II, p. 1052. See also "Addresses to the Deity" (by James Fordyce, 3d edition, 1801), p. 15. — ED.

[2] Younger brother of David Fordyce. — ED.

[3] It has hitherto been supposed that this letter was addressed to Peter

I have heard it remarked that the *poor* in *Protestant* countries, on the continent of Europe, are generally more indus-

Collinson. It appears to have been sent to him by Richard Jackson, the real recipient, and a portion of it in Collinson's handwriting is among the Wetstein papers in the British Museum.

Jackson received the letter in September and answered it March 17, 1754. His reply is among the Franklin papers in The American Philosophical Society. It may be noticed in passing that the letter has been hitherto wrongly dated (May the ninth). It was first printed in the *Gentleman's Magazine* for January, 1834, by J. Mitford of Benhall, then editor of the Magazine. "Extracts from the Diary of a Lover of Literature" (Thomas Green) had been published at Ipswich in 1810. The manuscript of the complete Diary was intrusted by Thomas Green's only son to Mr. Mitford who printed liberal portions in the *Gentleman's Magazine*. This letter appears in the Diary under the date, January 1, 1801: "In looking over some papers this morning I met with the following curious and *unpublished letter of Dr. Franklin*, discussing some topics of considerable interest with admirable good sense and sagacity, characteristic of its author. It is dated Philadelphia May 9, 1753, and is addressed to his friend Peter Collinson Esq."

trious than those of *Popish* countries. May not the more numerous foundations in the latter for relief of the poor have some effect towards rendering them less provident? To relieve the misfortunes of our fellow creatures is concurring with the Deity; it is godlike; but, if we provide encouragement for laziness, and supports for folly, may we not be found fighting against the order of God and Nature, which perhaps has appointed want and misery as the proper punishments for, and cautions against, as well as necessary consequences of, idleness and extravagance? Whenever we attempt to amend the scheme of Providence, and to interfere with the government of the world, we had need be very circumspect, lest we do more harm than good. In New England they once thought *blackbirds* useless, and mischievous to the corn. They made efforts to destroy them. The consequence was, the blackbirds were diminished; but a kind of worm, which devoured their grass, and which the blackbirds used to feed on, increased prodigiously; then, finding their loss in grass much greater than their saving in corn, they wished again for their blackbirds.

We had here some years since a Transylvanian Tartar, who had travelled much in the East, and came hither merely to see the West, intending to go home through the Spanish West Indies, China, &c.[1] He asked me one day, what I thought might be the reason, that so many and such numerous nations, as the Tartars in Europe and Asia, the Indians in America, and the Negroes in Africa, continued a wandering, careless life, and refused to live in cities, and cultivate the arts they saw practised by the civilized parts of mankind? While I was considering what answer to make him he said, in his broken English, "God make man for Paradise. He make him for live lazy. Man make God angry. God turn him out of Paradise, and bid workee. Man no love workee; he want to go to Paradise again; he want to live lazy. So all mankind love lazy." However this may be, it seems certain that the hope of becoming at some time of life free from the necessity of care and labour, together with fear of penury, are the main springs of most people's industry. To those, indeed, who have been educated in elegant plenty, even the provision made for the poor may appear misery; but to those who have scarce ever been better provided for, such provision may seem quite good and sufficient. These latter, then, have nothing to fear worse than their present condition, and scarce hope for any thing better than a parish maintenance. So that there is only the difficulty of getting that maintenance allowed while they are able to work, or a little shame they suppose attending it, that can induce them to work at all; and what they do, will only be from hand to mouth.

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[1] Domien. See letter to Dr. Lining, March 18, 1755. — ED.

The proneness of human nature to a life of ease, of freedom from care and labour, appears strongly in the little success that has hitherto attended every attempt to civilize our American Indians. In their present way of living, almost all their wants are supplied by the spontaneous productions of nature, with the addition of very little labour, if hunting and fishing may indeed be called labour, where game is so plenty. They visit us frequently, and see the advantages that arts, sciences, and compact societies procure us. They are not deficient in natural understanding; and yet they have never shown any inclination to change their manner of life for ours, or to learn any of our arts. When an Indian child has been brought up among us, taught our language, and habituated to our customs, yet, if he goes to see his relatives, and makes one Indian ramble with them, there is no persuading him ever to return. And that this is not natural to them merely as Indians, but as men, is plain from this, that when white persons, of either sex, have been taken prisoners by the Indians, and lived awhile with them, though ransomed by their friends, and treated with all imaginable tenderness to prevail with them to stay among the English, yet in a short time they become disgusted with our manner of life, and the care and pains that are necessary to support it, and take the first opportunity of escaping again into the woods, from whence there is no redeeming them. One instance I remember to have heard, where the person was brought home to possess a good estate; but, finding some care necessary to keep it together, he relinquished it to a younger brother, reserving to himself nothing but a gun and a match-coat, with which he took his way again into the wilderness.

So that I am apt to imagine that close societies, subsisting by labour and art, arose first not from choice but from necessity, when numbers, being driven by war from their hunting grounds, and prevented by seas, or by other nations, from obtaining other hunting grounds, were crowded together into some narrow territories, which without labour could not afford them food. However, as matters now stand with us, care and industry seem absolutely necessary to our well-being. They should therefore have every encouragement we can invent, and not one motive to diligence be subtracted; and the support of the poor should not be by maintaining them in idleness, but by employing them in some kind of labour suited to their abilities of body, as I am informed begins to be of late the practice in many parts of England, where workhouses are erected for that purpose. If these were general, I should think the poor would be more careful, and work voluntarily to lay up something for themselves against a rainy day, rather than run the risk of being obliged to work at the pleasure of others for a bare subsistence, and that too under confinement.

The little value *Indians* set on what we prize so highly, under the name of learning, appears from a pleasant passage that happened some years since, at a treaty between some colonies and the Six Nations. When every thing had been settled to the satisfaction of both sides, and nothing remained but a mutual exchange of civilities, the English Commissioners told the Indians that they had in their country a college for the instruction of youth, who were there taught various languages, arts, and sciences; that there was a particular foundation in favour of the Indians to defray the expense of the education of any of their sons, who should desire to take the benefit of it; and said, if the Indians would accept the offer, the English would take half a dozen of their brightest lads, and bring them up in the best manner. The Indians, after consulting on the proposals, replied, that it was remembered that some of their youths had formerly been educated at that college, but that it had been observed that for a long time after they returned to their friends, *they were absolutely good for nothing;* being neither acquainted with the true methods of killing deer, catching beavers, or surprising an enemy. The proposition they looked on, however, as a mark of kindness and good will of the English to the Indian nations, which merited a grateful return;

and therefore, if the English gentlemen would send a dozen or two of their children to Opondago, the Great Council would take care of their education, bring them up in what was really the best manner, and make men of them.

[1] I am perfectly of your Mind, that Measures of great Temper are necessary with the Germans; and am not without Apprehensions, that, through their Indiscretion, or ours, or both, great Disorders may one day arise among us. Those who come hither are generally of the most ignorant stupid sort of their own Nation, and, as Ignorance is often attended with Credulity when Knavery would mislead it, and with Suspicion when Honesty would set it right; and as few of the English understand the German language, and so cannot address them either from the Press or Pulpit, it is almost impossible to remove any Prejudices they may entertain. Their own Clergy have very little Influence over their people, who seem to take an uncommon Pleasure in abusing and discharging the Minister on every trivial Occasion. Not being used to Liberty, they know not how to make a modest Use of it. And as Kolben in his History says of the young Hottentots, that they are not esteemed Men until they have shown their Manhood by *beating their Mothers*, so these seem not to think themselves Free, till they can feel their Liberty in abusing and insulting their Teachers. Thus they are under no Restraint from ecclesiastical Government; they behave, however, submissively enough at present to the civil Government, which I wish they may continue to do, for I remember when they modestly declined inter-

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[1] Everything from the beginning of this paragraph to the end of the letter was copied by Peter Collinson and sent by him to Mr. Wetstein. The copy is in the British Museum (Wetstein Correspondence, 32, 420). — ED.

meddling in our Elections, but now they come in Droves and carry all before them, except in one or two Counties.

Few of their Children in the Country learn English. They import many Books from Germany; and of the six Printing-Houses in the Province, two are entirely German, two half German half English, and but two entirely English. They have one German Newspaper, and one half-German. Advertisements, intended to be general, are now printed in Dutch and English. The Signs in our Streets have Inscriptions in both Languages, and in some places only German. They begin of late to make all their Bonds and other legal Instruments in their own Language, which (though I think it ought not to be) are allowed good in our Courts, where the German Business so increases, that there is continued need of Interpreters; and I suppose in a few Years they will also be necessary in the Assembly, to tell one half of our Legislators what the other half say.

In short, unless the Stream of their Importation could be turned from this to other Colonies, as you very judiciously propose, they will soon so outnumber us, that all the advantages we have, will not in my Opinion be able to preserve our Language, and even our Government will become precarious. The French, who watch all Advantages, are now themselves making a German Settlement, back of us, in the Illinois Country, and by means of these Germans they may in time come to an understanding with ours; and, indeed, in the last War, our Germans showed a general Disposition, that seemed to bode us no good. For, when the English, who were not Quakers, alarmed by the Danger arising from the defenceless State of our Country, entered unanimously into an Association, and within this Government and the Lower Counties raised, armed, and disciplined near ten thousand Men, the Germans, except a very few in proportion to their Number, refused to engage in it, giving out, one amongst another, and even in Print, that, if they were quiet, the French, should they take the Country, would not molest them; at the same time abusing the Philadelphians for fitting out Privateers against the Enemy, and representing the Trouble, Hazard, and Expense of defending the Province, as a greater Inconvenience than any that might be expected from a change of Government. Yet I am not entirely for refusing to admit them into our Colonies. All that seems to me necessary is, to distribute them more equally, mix them with the English, establish English Schools, where they are now too thick settled; and take some care to prevent the Practice, lately fallen into by some of the Ship-Owners of sweeping the German Gaols to make up the Number of their Passengers. I say, I am not against the Admission of Germans in general, for they have their Virtues. Their Industry and Frugality are exemplary. They are excellent Husbandmen; and contribute greatly to the Improvement of a Country.

I pray God to preserve long to Great Britain the English Laws, Manners, Liberties, and Religion. Notwithstanding the Complaints so frequent in your public Papers, of the prevailing Corruption and Degeneracy of the People, I know you have a great deal of Virtue still subsisting among you; and I hope the Constitution is not so near a Dissolution, as some seem to apprehend. I do not think you are generally become such Slaves to your Vices, as to draw down the *Justice* Milton speaks of, when he says, that ——[1]

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[1] Mitford says that the manuscript from which he transcribed the letter

157. TO WILLIAM STRAHAN[1] (P. C.)

Philadelphia, May 9. 1753.

DEAR SIR: — I have your favour of January 30th, and thank you for the civility shown, on my recommendation, to Mr. Harris. What you mention concerning the books was not at all amiss.

Neither the second volume of Bower's History of the Popes, nor Delaresse's Art of Painting, nor Crito, are to be found in any of Mr. Hall's trunks.

I have settled a nephew of mine in Antigua, in the place of Mr. Smith, deceased. I take him to be a very honest, industrious lad, and hope he will do well there, and in time be of some use to you as a correspondent. Please to send him a little cargo of books and stationery agreeable to the invoice below. I will send you a bill on this account perhaps *per* next ship.

Please to send my compliments to Mrs. Strahan and Master Billy. I am, sir, your obliged humble servant,

B. FRANKLIN.

3 ream propatria, best cut.
2 Do. pot.
1 Do. fine post.
2 lb. wafers, some large
1 doz. common Bibles
1 doz. Testaments

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ended thus abruptly. He supposed that "beyond all question," the words of Milton alluded to are the following: —

> "Yet sometimes nations will decline so low
> From virtue which is reason, that no wrong
> But justice, and some fatal curse annex'd
> Deprives them of their outward liberty,
> Their inward lost." — *Paradise Lost*, XII, 97. — ED.

[1] From John Bigelow, "The Complete Works of Benjamin Franklin," Vol. X, p. 266. — ED.

500 best quills.	1 doz. Psalters
3 doz. British ink powder.	2 doz. Primers.

And a few of your newest and most salable books, amounting in the whole to about £25 sterling.

Philadelphia, June 4. 1753.

SIR: — The above is a copy of mine per Reeves. This is only to request you would send me here the quarto abridgment of the Philosophical Transactions, except the first five volumes, which I have. Send me also Fielding's Proposals for Employing the Poor. In haste, I am yours,

B. FRANKLIN.

The five volumes of Transactions I have, are abridged by Lowthrop and Jones. All well. Mr. Hall out of town.

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158. TO JOSEPH HUEY[1] (A. P. S.)

SIR, Philadelphia, June 6, 1753.

I received your kind Letter of the 2d inst., and am glad to hear that you increase in Strength; I hope you will continue mending, 'till you recover your former Health and firmness. Let me know whether you still use the Cold Bath, and what Effect it has.

As to the Kindness you mention, I wish it could have been of more Service to you. But if it had, the only Thanks I should desire is, that you would always be equally ready to serve any other Person that may need your Assistance, and so let good Offices go round, for Mankind are all of a Family.

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[1] It has been generally supposed that this letter was addressed to George Whitefield. The rough draft in the A. P. S. is indorsed in Franklin's handwriting, "Letter to Joseph Huey." Another draft of the letter exists in the Stevens Collection, L. C. J. Huey, 1707(?)–1773, lived in Drumore township, Lancaster Co., Pennsylvania. — ED.

For my own Part, when I am employed in serving others, I do not look upon myself as conferring Favours, but as paying Debts. In my Travels, and since my Settlement, I have received much Kindness from Men, to whom I shall never have any Opportunity of making the least direct Return. And numberless Mercies from God, who is infinitely above being benefited by our Services. Those Kindnesses from Men, I can therefore only Return on their Fellow Men; and I can only shew my Gratitude for these mercies from God, by a readiness to help his other Children and my Brethren. For I do not think that Thanks and Compliments, tho' repeated weekly, can discharge our real Obligations to each other, and much less those to our Creator. You will see in this my Notion of good Works, that I am far from expecting [(as you suppose) that I shall ever][1] to merit Heaven by them. By Heaven we understand a State of Happiness, infinite in Degree, and eternal in Duration: I can do nothing to deserve such rewards: He that for giving a Draught of Water to a thirsty Person, should expect to be paid with a good Plantation, would be modest in his Demands, compar'd with those who think they deserve Heaven for the little good they do on Earth. Even the mix'd imperfect Pleasures we enjoy in this World, are rather from God's Goodness than our Merit; how much more such Happiness of Heaven. For my own part I have not the Vanity to think I deserve it, the Folly to expect it, nor the Ambition to desire it; but content myself in submitting to the Will and Disposal of that God who made me, who has hitherto preserv'd and bless'd me, and in whose Fatherly Goodness I may well confide, that he will never make me miserable, and that even the Afflictions I may at any time suffer shall tend to my Benefit.

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[1] This passage is found in the draft in A. P. S. — ED.

The Faith you mention has doubtless its use in the World. I do not desire to see it diminished, nor would I endeavour to lessen it in any Man. But I wish it were more productive of good Works, than I have generally seen it: I mean real good Works, Works of Kindness, Charity, Mercy, and Publick Spirit; not Holiday-keeping, Sermon-Reading or Hearing; performing Church Ceremonies, or making long Prayers, filled with Flatteries and Compliments, despis'd even by wise Men, and much less capable of pleasing the Deity. The worship of God is a Duty; the hearing and reading of Sermons may be useful; but, if Men rest in Hearing and Praying, as too many do, it is as if a Tree should Value itself on being water'd and putting forth Leaves, tho' it never produc'd any Fruit.

Your great Master tho't much less of these outward Appearances and Professions than many of his modern Disciples. He prefer'd the *Doers* of the Word, to the meer *Hearers;* the Son that seemingly refus'd to obey his Father, and yet perform'd his Commands, to him that profess'd his Readiness, but neglected the Work; the heretical but charitable Samaritan, to the uncharitable tho' orthodox Priest and sanctified Levite; & those who gave Food to the hungry, Drink to the Thirsty, Raiment to the Naked, Entertainment to the Stranger, and Relief to the Sick, tho' they never heard of his Name, he declares shall in the last Day be accepted, when those who cry Lord! Lord! who value themselves on their

Faith, tho' great enough to perform Miracles, but have neglected good Works, shall be rejected. He profess'd, that he came not to call the Righteous but Sinners to repentance; which imply'd his modest Opinion, that there were some in his Time so good, that they need not hear even him for Improvement;[1] but now-a-days we have scarce a little Parson, that does not think it the Duty of every Man within his Reach to sit under his petty Ministrations; and that whoever omits them [offends God. I wish to such more humility, and to you health and happiness, being your friend and servant,][2]

B. FRANKLIN.

159. TO PETER COLLINSON[3] (P. C.)

Newhaven in Connecticut
June 26, 1753.

DEAR FRIEND

I received a Letter from you on the Road hither, with one of my Supplementary Papers on Electricity; and a Letter from our friend Kalm.

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[1] In all the printed copies this passage is found as follows: "which implied his modest opinion, that there were some in his time, *who thought themselves* so good, that they need not hear even him for improvement." The words here Italicized are not contained in the original draft. — ED.

[2] The passage within brackets is found in the L. C. copy only. — ED.

[3] From the collection of Eliot Reed, Esq. I have omitted the last paragraph, which is a recommendation of William Smith, from whom early in April Franklin had received a copy of his pamphlet, "The Idea of the College of Mirania."

Upon the back of the letter Peter Collinson had written the following strange note: "There was no occasion of any Phylosophy on this ever to be lamented occasion. Peter Collinson had few feelings but for Himself. The same Principle that led him to deprive his son of his Birthright when that son lay in the Agonies of Death and knew not what he put his hand to, supported Peter Collinson in the loss of the best of Women in a manner that did no Honour to his Feelings, his Gratitude or his Humanity." — ED.

I condole with you sincerely on the Death of Mrs. Collinson: I do not, however, offer to comfort you by Arguments drawn from Philosophy or Religion, such will readily occur to a Person of your Understanding and Piety. Natural Affections must have their Course. The best Remedy of Grief is Time. . . .

In one of your late Letters you mention'd that besides the bountiful Benefaction then sent us by the Proprietary he meditated some Endowments for the Academy if he should find it answer his Expectations. I hope it will answer and even exceed his Expectations. We now only want a Person in the Academy qualified to teach the higher Parts of Learning, and finish the Youth in their Education. This Finishing, given by the Proprietor's Beneficence would in my Opinion leave the most lasting Impressions of Gratitude and Respect, and be productive of the best Effects in a due Regard and Veneration for the Family among those who by their Education and Stations will be most capable of serving it; especially as the Professor himself, being under the greatest Obligation to the Founders may take all Opportunities of making and fixing those Impressions in the Minds of his Pupils.

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160. TO WILLIAM FRANKLIN (A. P. S.)

Boston July 23. 1753

DEAR SON,

I am pleas'd to learn by yours of the 12th that you have taken a circumstantial Acct of the Appearances at Trumble's House, which you think sufficient to establish my new Hypothesis of the Direction of Lightning. —

M^r^. Kinnersley has sent me a Pane of the Glass with a Letter in which he mentions his Suspicions that the Stroke was upwards. I now write him a short Acc^t^ of the Experiments I made before I left home, & refer him to you for the Explanation according to the new Hypothesis, which I have not now time to give him at length —

I hope the Co Ream of Paper, Law Size N 2. which I order'd Shutz to make for M^r^ Holbrook here, is come down from the Mill before this time. Send it per first Vessel to that Gentleman —

I purpose to set out next Monday, God willing, on my Return; and hope to be at home about the Middle of August, not exceeding the 20th —

My Compliments to all Enquiring Friends. I am, D^r^ Son,

Your affectionate Father

B. FRANKLIN.

161. TO PETER COLLINSON [1]

Philadelphia, September 1753.

SIR,

In my former paper on this subject, wrote first in 1747, enlarged and sent to *England* in 1749, I considered the sea as the grand source of lightning, imagining its luminous appearance to be owing to electric fire, produc'd by friction between the particles of water and those of salt. Living far from the sea, I had then no opportunity of making experiments on the sea water, and so embraced this opinion too hastily.

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[1] From "Experiments and Observations on Electricity," London, 1769, p. 113.

For in 1750 and 1751, being occasionally on the seacoast, I found, by experiments, that sea water in a bottle, tho' at first it would by agitation appear luminous, yet in a few hours it lost that virtue; *hence, and from this*, that I could not by agitating a solution of sea salt in water produce any light, I first began to doubt of my former hypothesis, and to suspect, that the luminous appearance in sea water must be owing to some other principles.

I then considered whether it were not possible, that the particles of air, being electrics *per se*, might, in hard gales of wind, by their friction against trees, hills, buildings, &c., as so many minute electric globes, rubbing against non-electric cushions, draw the electric fire from the earth, and that the rising vapours might receive that fire from the air, and by such means the clouds become electrified.

If this were so, I imagined that by forcing a constant violent stream of air against my prime conductor, by bellows, I should electrify it *negatively;* the rubbing particles of air drawing from it part of its natural quantity of the electric fluid. I accordingly made the experiment, but it did not succeed.

In *September* 1752, I erected an iron rod to draw the lightning down into my house, in order to make some experiments on it, with two bells to give notice when the rod should be electrify'd: a contrivance obvious to every electrician.

I found the bells rang sometimes when there was no lightning or thunder, but only a dark cloud over the rod; that sometimes, after a flash of lightning, they would suddenly stop; and, at other times, when they had not rang before, they would, after a flash, suddenly begin to ring;

that the electricity was sometimes very faint, so that, when a small spark was obtain'd, another could not be got for some time after; at other times the sparks would follow extremely quick, and once I had a continual stream from bell to bell, the size of a crow-quill: Even during the same gust there were considerable variations.

In the winter following I conceived an experiment, to try whether the clouds were electrify'd *positively* or *negatively;* but my pointed rod, with its apparatus, becoming out of order, I did not refit it till towards the spring, when I expected the warm weather would bring on more frequent thunder-clouds.

The experiment was this: To take two phials; charge one of them with lightning from the iron rod, and give the other an equal charge by the electric glass globe, thro' the prime conductor: When charg'd, to place them on a table within three or four inches of each other, a small cork ball being suspended by a fine silk thread from the ceiling, so as it might play between the wires. If both bottles then were electrify'd *positively*, the ball, being attracted and repelled by one, must be also repell'd by the other. If the one *positively*, and the other *negatively*, then the ball would be attracted and repell'd alternately by each, and continue to play between them as long as any considerable charge remained.

Being very intent on making this experiment, it was no small mortification to me, that I happened to be abroad during two of the greatest thunder-storms we had early in the spring, and, tho' I had given orders in my family, that, if the bells rang when I was from home, they should catch some of the lightning for me in electrical phials, and they did so, yet it was mostly dissipated before my return, and in some of the other gusts, the quantity of lightning I was able to obtain was so small, and the charge so weak, that I could not satisfy myself: Yet I sometimes saw what heighten'd my suspicions, and inflamed my curiosity.

At last, on the 12th of *April*, 1753, there being a smart gust of some continuance, I charg'd one phial pretty well with lightning, and the other equally, as near as I could judge, with electricity from my glass globe; and, having placed them properly, I beheld, with great surprize and pleasure, the cork ball play briskly between them, and was convinced, that one bottle was electrised *negatively*.

I repeated this experiment several times during the gust, and in eight succeeding gusts, always with the same success; and being of opinion (for reasons I formerly gave in my letter to Mr. *Kinnersly*, since printed in *London*), that the glass globe electrises *positively*, I concluded, that the clouds are *always* electrised *negatively*, or have always in them less than their natural quantity of the electric fluid.

Yet notwithstanding so many experiments, it seems I concluded too soon; for at last, *June* the 6th, in a gust which continued from five o'clock, P. M., to seven, I met with one cloud that was electrised *positively*, tho' several that pass'd over my rod before, during the same gust, were in the *negative* state. This was thus discovered:

I had another concurring experiment, which I often repeated, to prove the negative state of the clouds, *viz.*, While the bells were ringing, I took the phial charged from the glass globe, and applied its wire to the erected rod, considering, that if the clouds were electrised *positively*, the rod which received its electricity from them, must be so too; and then the additional *positive* electricity of the phial would make the bells ring faster:—But, if the clouds were in a *negative* state, they must exhaust the electric fluid from my rod, and bring that into the same negative state with themselves, and then the wire of a positively charg'd phial, supplying the rod with what it wanted (which it was obliged otherwise to draw from the earth by means of the pendulous brass ball playing between the two bells) the ringing would cease till the bottle was discharg'd.

In this manner I quite discharged into the rod several phials that were charged from the glass globe, the electric fluid streaming from the wire to the rod, 'till the wire would receive no spark from the finger; and during this supply to the rod from the phial, the bells stopt ringing; but by continuing the application of the phial wire to the rod, I exhausted the natural quantity from the inside surface of the same phials, or, as I call it, charged them *negatively*.

At length, while I was charging a phial by my glass globe, to repeat this experiment, my bells, of themselves, stopt ringing, and, after some pause, began to ring again. But now, when I approached the wire of the charg'd phial to the rod, instead of the usual stream that I expected from the wire to the rod, there was no spark;—not even when I brought the wire and the rod to touch; yet the bells continued ringing vigorously, which proved to me, that the rod was then *positively* electrify'd, as well as the wire of the phial, and equally so; and, consequently, that the particular cloud then over the rod, was in the same positive state. This was near the end of the gust.

But this was a single experiment, which, however, destroys my first too general conclusion, and reduces me to this:

That the clouds of a thunder-gust are most commonly in a negative state of electricity, but sometimes in a positive state.

The latter I believe is rare; for, tho' I soon after the last experiment, set out on a journey to *Boston*, and was from home most part of the summer, which prevented my making farther trials and observations; yet Mr. *Kinnersley*, returning from the islands just as I left home, pursued the experiments during my absence, and informs me, that he always found the clouds in the *negative* state.

So that, for the most part, in thunder-strokes, '*tis the earth that strikes into the clouds, and not the clouds that strike into the earth.*

Those who are vers'd in electric experiments, will easily conceive, that the effects and appearances must be nearly the same in either case; the same explosion, and the same flash between one cloud and another, and between the clouds and mountains, &c., the same rending of trees, walls, &c., which the electric fluid meets with in its passage, and the same fatal shock to animal bodies; and that pointed rods fix'd on buildings, or masts of ships, and communicating with the earth or sea, must be of the same service in restoring the equilibrium silently between the earth and clouds, or in conducting a flash or stroke, if one should be, so as to save harmless the house or vessel: For points have equal power to throw off, as to draw on the electric fire, and rods will conduct up as well as down.

But tho' the light gained from these experiments makes no alteration in the practice, it makes a considerable one in the theory. And now we as much need an hypothesis to explain by what means the clouds become negatively, as before to shew how they became positively electrified.

I cannot forbear venturing some few conjectures on this occasion: They are what occur to me at present, and, tho' future discoveries should prove them not wholly right, yet they may in the mean time be of some use, by stirring up the curious to make more experiments, and occasion more exact disquisitions.

I conceive then, that this globe of earth and water, with its plants, animals, and buildings, have, diffused throughout their substance, a quantity of the electric fluid, just as much as they can contain, which I call the *natural quantity*.

That this natural quantity is not the same in all kinds of common matter under the same dimensions, nor in the same kind of common matter in all circumstances; but a solid foot, for instance, of one kind of common matter, may contain more of the electric fluid than a solid foot of some other kind of common matter; and a pound weight of the same kind of common matter may, when in a rarer state, contain more of the electric fluid than when in a denser state.

For the electric fluid, being attracted by any portion of common matter, the parts of that fluid (which have among themselves a mutual repulsion) are brought so near to each other by the attraction of the common matter that absorbs them, as that their repulsion is equal to the condensing power of attraction in common matter; and then such portion of common matter will absorb no more.

Bodies of different kinds, having thus attracted and absorbed what I call their *natural quantity*, *i.e.* just as much of the electric fluid as is suited to their circumstances of density, rarity, and power of attracting, do not then show any signs of electricity among each other.

And if more electric fluid be added to one of these bodies, it does not enter, but spreads on the surface, forming an atmosphere; and then such body shews signs of electricity.

I have in a former paper compar'd common matter to a sponge, and the electric fluid to water: I beg leave once more to make use of the same comparison, to illustrate farther my meaning in this particular.

When a sponge is somewhat condens'd by being squeezed between the fingers, it will not receive and retain so much water as when in its more loose and open state.

If *more* squeez'd and condens'd, some of the water will come out of its inner parts, and flow on the surface.

If the pressure of the fingers be entirely removed, the sponge will not only resume what was lately forced out, but attract an additional quantity.

As the sponge in its rarer state will *naturally* attract and absorb *more* water, and in its denser state will *naturally* attract and absorb *less* water; we may call the quantity it attracts and absorbs in either state, its *natural quantity*, the state being considered.

Now what the sponge is to water, the same is water to the electric fluid.

When a portion of water is in its common dense state, it can hold no more electric fluid than it has; if any be added, it spreads on the surface.

When the same portion of water is rarefy'd into vapour, and forms a cloud, it is then capable of receiving and absorbing a much greater quantity; there is room for each particle to have an electric atmosphere.

Thus water, in its rarefy'd state, or in the form of a cloud, will be in a negative state of electricity; it will have less than its *natural quantity;* that is, less than it is naturally capable of attracting and absorbing in that state.

Such a cloud, then, coming so near the earth as to be within the striking distance, will receive from the earth a flash of the electric fluid; which flash, to supply a great extent of cloud, must sometimes contain a very great quantity of that fluid.

Or such a cloud, passing over woods of tall trees, may from the points and sharp edges of their moist top leaves, receive silently some supply.

A cloud, being by any means supply'd from the earth, may strike into other clouds that have not been supply'd, or not so much supply'd; and those to others, till an equilibrium is produc'd among all the clouds that are within striking distance of each other.

The cloud thus supply'd, having parted with much of what it first receiv'd, may require and receive a fresh supply from the earth, or from some other cloud, which, by the wind, is brought into such a situation as to receive it more readily from the earth.

Hence repeated and continual strokes and flashes till the clouds have all got nearly their natural quantity as clouds, or till they have descended in showers, and are united again with this terraqueous globe, their original.

Thus thunder-clouds are generally in a negative state of electricity compar'd with the earth, agreeable to most of our experiments; yet as by one experiment we found a cloud electris'd positively, I conjecture that, in that case, such cloud, after having received what was, in its rare state, only its *natural quantity*, became compress'd by the driving winds, or some other means, so that part of what it had absorb'd was forc'd out, and form'd an electric atmosphere around it in its denser state. Hence it was capable of communicating positive electricity to my rod.

To show that a body in different circumstances of dilatation and contraction is capable of receiving and retaining more or less of the electric fluid on its surface, I would relate the following experiment. I placed a clean wine-glass on the floor, and on it a small silver can. In the can I put about three yards of brass chain; to one end of which I fastened a silk thread, which went right up to the cieling, where it passed over a pulley, and came down again to my hand, that I might at pleasure draw the chain up out of the can, extending it till within a foot of the cieling, and let it gradually sink into the can again. — From the cieling, by another thread of fine raw silk, I suspended a small light lock of cotton, so as that when it hung perpendicularly, it came in contact with the side of the can. — Then approaching the wire of a charged vial to the can, I gave it a spark, which flow'd round in an electric atmosphere; and the lock of cotton was repelled from the side of the can to the distance of about nine or ten inches. The can would not then receive another spark from the wire of the vial; but, as I gradually drew up the chain, the atmosphere of the can diminish'd by flowing over the rising chain, and the lock of cotton accordingly drew nearer and nearer to the can; and then, if I again brought the vial wire near the can, it would receive another spark, and the cotton fly off again to its first distance; and thus, as the chain was drawn higher, the can would receive more sparks; because the can and extended chain were capable of supporting a greater atmosphere than the can with the chain gather'd up into its belly. — And that the atmosphere round the can was diminished by raising the chain, and increased again by lowering it, is not only agreeable to reason, since the atmosphere of the chain must be drawn from that of the can, when it rose, and returned to it again when it fell; but was also evident to the eye, the lock of cotton always approaching the can when the chain was drawn up, and receding when it was let down again.

Thus we see, that increase of surface makes a body capable of receiving a greater electric atmosphere: But this experiment does not, I own, fully demonstrate my new hypothesis; for the brass and silver still continue in their solid state, and are not rarefied into vapour, as the water is in clouds. Perhaps some future experiments on vapourized water may set this matter in a clearer light.

One seemingly material objection arises to the new hypothesis, and it is this. If water, in its rarefied state, as a cloud, requires and will absorb more of the electric fluid than when in its dense state as water, why does it not acquire from the earth all it wants at the instant of its leaving the surface, while it is yet near, and but just rising in vapour? To this difficulty I own I cannot at present give a solution satisfactory to myself: I thought, however, that I ought to state it in its full force, as I have done, and submit the whole to examination.

And I would beg leave to recommend it to the curious in this branch of natural philosophy, to repeat with care and accurate observation the experiments I have reported in this and former papers relating to *positive* and *negative* electricity, with such other relative ones as shall occur to them, that it may be certainly known whether the electricity communicated by a glass globe be *really positive.* And also

I would request all who may have an opportunity of observing the recent effects of lightning on buildings, trees, &c., that they would consider them particularly with a view to discover the direction. But in these examinations, this one thing is always to be understood, *viz.*, that, a stream of the electric fluid passing thro' wood, brick, metal, &c., while such fluid passes in *small quantity*, the mutually repulsive power of its parts is confined and overcome by the cohesion of the parts of the body it passes thro' so as to prevent an explosion; but, when the fluid comes in a quantity too great to be confined by such cohesion, it explodes, and rends or fuses the body that endeavoured to confine it. If it be wood, brick, stone, or the like, the splinters will flie off on that side where there is least resistance. And thus, when a hole is struck thro' pasteboard by the electrify'd jar, if the surfaces of the pasteboard are not confin'd or compress'd, there will be a bur rais'd all round the hole on both sides the pasteboard; but if one side be confin'd, so that the bur cannot be rais'd on that side, it will be all raised on the other; which way soever the fluid was directed. For the bur round the outside of the hole is the effect of the explosion every way from the center of the stream, and not an effect of the direction.

In every stroke of lightning, I am of opinion that the stream of the electric fluid, moving to restore the equilibrium between the cloud and the earth, does always previously find its passage, and mark out, as I may say, its own course, taking in its way all the conductors it can find, such as metals, damp walls, moist wood, &c., and will go considerably out of a direct course, for the sake of the assistance of good conductors; and that, in this course, it is actually moving, tho' silently and imperceptibly, before the explosion, in and among the conductors; which explosion happens only when the conductors cannot discharge it as fast as they receive it, by reason of their being incompleat, disunited, too small, or not of the best materials for conducting. Metalline rods, therefore, of sufficient thickness, and extending from the highest part of an edifice to the ground, being of the best materials and compleat conductors, will, I think, secure the building from damage, either by restoring the equilibrium so fast as to prevent a stroke, or by conducting it in the substance of the rod as far as the rod goes, so that there shall be no explosion but what is above its point between that and the clouds.

If it be ask'd, What thickness of a metalline rod may be suppos'd sufficient? in answer, I would remark, that five large glass jars, such as I have described in my former papers, discharge a very great quantity of electricity, which nevertheless will be all conducted round the corner of a book, by the fine filletting of gold on the cover, it following the gold the farthest way about, rather than take the shorter course through the cover, that not being so good a conductor. Now in this line of gold, the metal is so extremely thin as to be little more than the colour of gold, and on an octavo book is not in the whole an inch square, and therefore not the thirty-sixth part of a grain, according to M. *Réaumur;* yet 'tis sufficient to conduct the charge of five large jars, and how many more I know not. Now, I suppose a wire of a quarter an inch diameter to contain about 5000 times as much metal as there is in that gold line; and, if so, it will conduct the charge of 25,000 such glass jars, which is a quantity, I imagine, far beyond what was ever contain'd in any one stroke of natural lightning. But a rod of half an inch diameter would conduct four times as much as one of a quarter.

And with regard to conducting, tho' a certain thickness of metal be required to conduct a great quantity of electricity, and, at the same time, keep its own substance firm and unseparated; and a less quantity, as a very small wire for instance, will be destroyed by the explosion; yet such small wire will have answered the end of conducting that stroke, tho' it become incapable of conducting another. And considering the extream rapidity with which the electric fluid moves without exploding, when it has a free passage, or compleat metal communication, I should think a vast quantity would be conducted in a short time, either to or from a cloud, to restore its equilibrium with the earth, by means of a very small wire; and therefore thick rods should seem not so necessary. — However, as the quantity of lightning discharg'd in one stroke, cannot well be measured, and in different strokes is certainly very various, in some much greater than in others; and as iron (the best metal for the purpose, being least apt to fuse) is cheap, it may be well enough to provide a larger canal to guide that impetuous blast, than we imagine necessary: For, though one middling wire may be sufficient, two or three can do no harm. And time, with careful observations well compar'd, will at length point out the proper size to greater certainty.

Pointed rods erected on edifices may likewise often prevent a stroke, in the following manner. An eye so situated as to view horizontally the under side of a thunder-cloud, will see it very ragged, with a number of separate fragments, or petty clouds, one under another, the lowest sometimes not far from the earth. These, as so many stepping-stones, assist in conducting a stroke between the cloud and a building. To represent these by an experiment, take two or three locks of fine loose cotton, connect one of them with the prime conductor by a fine thread of two inches (which may be spun out of the same lock by the fingers), another to that, and the third to the second, by like threads. Turn the globe, and you will see these locks extend themselves towards the table (as the lower small clouds do towards the earth), being attracted by it: But on presenting a sharp point erect under the lowest, it will shrink up to the second, the second to the first, and all together to the prime conductor, where they will continue as long as the point continues under them. May not, in like manner, the small electrised clouds, whose equilibrium with the earth is soon restor'd by the point, rise up to the main body, and by that means occasion so large a vacancy, as that the grand cloud cannot strike in that place?

These thoughts, my dear friend, are many of them crude and hasty; and if I were merely ambitious of acquiring some reputation in philosophy, I ought to keep them by me, till corrected and improved by time and farther experience. But since even short hints and imperfect experiments in any new branch of science, being communicated, have oftentimes a good effect, in exciting the attention of the ingenious to the subject, and so become the occasion of more exact disquisition, and more compleat discoveries. You are at liberty to communicate this paper to whom you please; it being of more importance that knowledge should increase, than that your friend should be thought an accurate philosopher.

[B. FRANKLIN.]

162. TO JAMES BOWDOIN[1]

Philadelphia, October 18, 1753.

DEAR SIR,

I recollect that I promised to send you Dr. Brownrigg's Treatise on Common Salt. You will receive it herewith. I hope it may be of use in the affair of your fishery. Please to communicate it to Captain Erwin, Mr. Pitts, Mr. Boutineau, or any other of your friends, who may be desirous of seeing it.

Since my return from Boston, I have been to our western frontiers on a treaty with the Ohio Indians. They complained much of the abuses they suffer from our traders, and earnestly requested us to put the trade under some regulation. If you can procure and send me your truck-house law, and a particular account of the manner of executing it, with its consequences, &c., so that we may have the benefit of your experience, you will much oblige me; and if you have found it a useful law, I am in hopes we shall be induced to follow your good example.

My compliments to Mrs. Bowdoin and all inquiring friends. With much respect and esteem, I am, dear Sir, &c.

B. FRANKLIN.

163. TO CADWALLADER COLDEN[2]

Philadelphia, October 25, 1753.

SIR,

This last summer, I have enjoyed very little of the pleasure of reading or writing. I made a long journey to the eastward, which consumed ten weeks; and two journeys to our western frontier. One of them, to meet and hold a treaty with the Ohio Indians, in company with Mr. Peters and Mr. Norris. I shall send you a copy of that treaty, as soon as it is published. I should be glad to know whether the Act, mentioned in your "History of the Five Nations," to prevent the people of New York from supplying the French with Indian goods, still subsists, and is duly executed.[1]

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[1] First printed by Sparks.

[2] *Ibid.*

I left your book with Mr. Bowdoin, in Boston. I hope you will hear from him this winter. I observed extracts from it in all the Magazines, and in the *Monthly Review*, but I see no observations on it. I send you herewith Nollet's book. M. Dalibard writes me, that he is just about to publish an answer to it, which, perhaps, may save me the trouble.

I hope soon to find time to finish my new Hypothesis of Thunder and Lightning, which I shall immediately communicate to you. I sent you, by our friend Bartram, some meteorological conjectures for your amusement. When perused, please to return them, as I have no copy. With sincere esteem and respect, I am, dear Sir, &c.

B. FRANKLIN.

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[1] Mr. Colden replied, November 19th. — "We have at present no law in this province for restraining the trade to Canada, except that by which a duty is laid on Indian goods sold out of the city of Albany, and applied for support of the garrison at Oswego. It is certain, that a very considerable trade is carried on between Albany and Canada by means of the Caghnawaga, or French Indians, all of them deserters from the Five Nations. When I was last at Albany there were at least two hundred of them, stout young fellows, at one time in the town. The Indians have passports from the governor of Canada, and I therefore conclude that this trade is thought beneficial to the French interest, and it may be a great inducement to our Indians to desert, by the benefit they receive from it; for none are allowed to be the carriers between Albany and Canada, but French Indians." — ED.

164. TO WILLIAM STRAHAN[1] (P. C.)

Philadelphia, October 27. 1753.

Dear Sir: — I have your favour of June 27th, and am quite surprised at the conduct of Mr. Harris. He is returned to Maryland, as I hear, a parson.

I have now received Bower's second volume, and shall send to the Trenton Library to enquire after Crito and Delaresse.

The sum was £25 to which I limited the books, etc, to be sent to my nephew, Benjamin Mecom. But if you have sent to the amount of £30, it is not amiss.

I am now about to establish a small printing-office in favour of another nephew, at New Haven, in the Colony of Connecticut, in New England; a considerable town, in which there is a university, and a prospect that a bookseller shop, with a printing-house, may do pretty well. I would therefore request you to bespeak for me of Mr. Caslon, *viz.:*

300 lbs. long primer, with figures and signs sufficient for an almanac.

300 lbs. pica.	Roman and Italic.
100 lbs. great primer.	
300 lbs. English.	
60 lbs. double pica.	
50 lbs. two-line English.	
40 lbs. two-line great primer.	

30 lbs. two-line capitals and flowers for different fonts.

20 lbs. quotations.

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[1] From John Bigelow, "The Complete Works of Benjamin Franklin," Vol. X, p. 267. — Ed.

As Mr. Caslon has different long primers, picas, etc., I beg of your judgment to choose and order the best.

To which add:

A complete good new press.

2 pair blankets.

2 pair ballstocks.

Some reglets, gutter-sticks, side-sticks, quoins, etc.

3 pair chases, of different sizes; the biggest, demi.

2 folio galleys, each with four shies.

4 quarto galleys.

A few facs, heads and tail pieces; three or four of each.

2 doz. brass rules.

2 good composing-sticks.

2 kegs of ink; one weak, the other strong.

With such another small cargo of books and stationery as I desired you to send to Antigua for a beginning.

Mesnard sails in a week or two, by whom I shall send you bills for £100 sterling. But desire you would immediately on receipt of this, bespeak the letter, etc., that we may not be disappointed of having them *per* first ship to New Haven or New York in the spring. If sent to New Haven, direct them to the care of Mr. Thomas Darling, merchant there. If no vessel to New Haven, then to New York, to the care of Mr. Parker, printer.

Insure the whole.

The furniture may be packed in the large case that contains the press.

If you can persuade your press-maker to go out of his old road a little, I would have the ribs made not with the face rounding outwards, as usual, but a little hollow or rounding inwards from end to end; and the cramps made of hard cast brass, fixed not across the ribs, but longways, so as to slide in the hollow face of the ribs. The reason is, that brass and iron work better together than iron and iron. Such a press never gravels; the hollow face of the ribs keeps the oil better, and the cramps, bearing on a large surface, do not wear, as in the common method. Of this I have had many years' experience.

I need not desire you to agree with the workmen on the most reasonable terms you can; and as this affair will give you trouble, pray charge commission. I shall not think myself a whit the less obliged.

My compliments to Mrs. Strahan, Master Billy, etc., in which my wife and children join with, dear sir, your most humble servant, B. FRANKLIN.

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165. PREFACE TO POOR RICHARD IMPROVED: 1754

(P. H. S.)

KIND READER,

I have now serv'd you three Apprenticeships, yet, old as I am, I have no Inclination to quit your Service, but should be glad to be able to continue in it three times three Apprenticeships longer.

The first *Astrologers* I think, were honest Husbandmen; and so it seems are the last; for my Brethren *Jerman* and *Moore*, and myself, the only remaining Almanack makers of this Country, are all of that Class: Tho' in intermediate Times our Art has been cultivated in great Cities, and even in the Courts of Princes; witness History, from the Days of King Nebuchadnezzar I. of *Babylon*, to those of Queen James I. of *England*. . . . But you will ask, perhaps, how I prove that the first Astrologers were Countrymen? . . .

I own this is a Matter beyond the Memory of History, for Astrology was before Letters; but I prove it from the Book of the Heavens, from the Names of the twelve Signs, which were mostly given to remark some Circumstance relative to rural Affairs, in the several successive Months of the Year, and by that Means to supply the Want of Almanacks. . . . Thus, as the Year of the Ancients began most naturally with the Spring, *Aries* and *Taurus*, that is, the Ram and the Bull, represented the successive Addition to their Flocks of Sheep and Kine, by their Produce in that Season, Lambs and Calves. . . . *Gemini* were originally the Kids, but called the Twins, as Goats more commonly bring forth two than one: These follow'd the Calves. . . . *Cancer*, the Crab, came next, when that Kind of Fish were in Season. . . . Then follow'd *Leo*, the Lion, and *Virgo*, the Wench, to mark the Summer Months, and Dog-days, when those Creatures were most mischievous. In Autumn comes first *Libra* the Ballance, to point out the Time for weighing and selling the Summer's Produce; or rather, a Time of Leisure for holding Courts of Justice in which they might plague themselves and Neighbours; I know some suppose this Sign to signify the equal Poise, at that Time, of Day and Night; but the other Signification is the truer, as plainly appears by the following Sign *Scorpio*, or the Scorpion, with the Sting in his Tail, which certainly denotes the paying of Costs. . . . Then follows *Sagittary*, the Archer, to show the Season of Hunting; for now the Leaves being off the Trees and Bushes, the Game might be more easily seen and struck with their Arrows. . . . The *Goat* accompanies the short Days and long Nights of Winter, to shew the Season of Mirth, Feasting and Jollity; for what can *Capricorn* mean, but

Dancing or Cutting of *Capers?* . . . At length comes *Aquarius*, or the Water-bearer, to show the Season of Snows, Rains and Floods; and lastly *Pisces*, or the two Shads, to denote the approaching Return of those Fish up the Rivers: Make your Wears, hawl your Seins; Catch 'em and pickle 'em, my Friends; they are excellent Relishars of old Cyder. . . . But if you can't get Shad, Mackrell may do better.

I know, gentle Readers, that many of you always expect a Preface, and think yourselves slighted if that's omitted. So here you have it, and much good may 't do ye. As little as it is to the Purpose, there are many less so, now-a-days. . . . I have left out, you see, all the usual Stuff about the *Importunity of Friends*, and the like, or I might have made it much bigger. You think, however, that 'tis big enough for any Matter of Good that's in it; . . . I think so too, if it fills the Page, which is the Needful at present,

Your loving Friend to serve,
R. SAUNDERS.

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166. TO THOMAS CLAP[1] (Y.)

DEAR SIR, Philad^a^, Nov. 8, 1753.

The first Intimation I find of the new Air-Pump is in a Piece of Mr. Watson's read to the Royal Society, February 20th, 1752, where, describing some Experiments he made *in vacuo*, he says; "The more compleat the Vacuum, *cæteris paribus*, the more considerable were the Effects; and here I should not do Justice to real Merit, were I silent in regard to Mr. Smeaton. This Gentleman, with a Genius truly mechanical, which enables him to give to such Philosophical

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[1] Thomas Clap (1703–1767), President of Yale College. — ED.

Instruments, as he executes, a degree of Perfection scarce to be found elsewhere; this Gentleman, I say, has constructed an Air-pump, by which we are impower'd to make Boyle's Vacuum much more perfect than heretofore. By a well conducted Experiment, which admits of no doubt as to its Truth, I have seen by this Pump the Air rarefied to one thousand Times its natural State; whereas, commonly, we seldom arrive at above one hundred and fifty. As the promotion of the mechanic Arts is a considerable object of our excellent Institution, if this Gentleman could be prevailed upon to communicate to the Royal Society that particular Construction of his Air-pump, which enables it to execute so much more than those commonly in use, it would not fail to be an acceptable Present."

So far Mr. Watson. In April following, was read a Letter from Mr. Smeaton, in which he describes his Improvement, and gives a draft of his pump; the whole too long to transcribe; but it appears to me, that the Machine, being rather simply'd than made more complex, can scarce cost more than one of the old Sort, though the Price is not mention'd. By only turning a Cock it is at pleasure made a Condensing Engine; an Advantage the others have not.

I have seen nothing of your Searchers. Mr. Parker has received Bower, but writes me, that he is at Loss how to send it, and desires you would order somebody to call for it.

I shall send the dollars for Mr. Mix per next post; for I fancy you will not now buy this Apparatus here, but choose the new Air-Pump from England.

With my respects to all friends, I am,

Dear Sir,

Your obliged humble servant,

B. Franklin.

167. TO PETER COLLINSON[1]

Philadelphia, Nov. 23, 1753.

DEAR FRIEND,

In my last, *viâ Virginia*, I promised to send you per next ship, a small philosophical pacquet: But now having got the materials (old letters and rough drafts) before me, I fear you will find it a great one. Nevertheless, as I am like to have a few days leisure before this ship sails, which I may not have again in a long time, I shall transcribe the whole, and send it; for you will be under no necessity of reading it all at once, but may take it a little at a time, now and then of a winter evening. When you happen to have nothing else to do (if that ever happens,) it may afford you some amusement. B. F[RANKLIN].

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168. *Proposal of an Experiment to measure the Time taken up by an Electric Spark in moving through any given Space. By James Alexander, of New York.*[2]

READ AT THE ROYAL SOCIETY, DEC. 26, 1756

IF I remember right, the Royal Society made one experiment to discover the velocity of the electric fire, by a wire of about four miles in length, supported by silk, and by turning it forwards and backwards in a field, so that the beginning and end of the wire were at only the distance of two people, the one holding the *Leyden* bottle and the beginning of the wire, and the other holding the end of the wire and touching the ring of the bottle; but by this experiment no discovery was made, except that the velocity was extremely quick.

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[1] The "philosophical packet" contained a scientific correspondence with James Alexander, Jonathan Todd, Jared Eliot, and Cadwallader Colden. Portions of its contents were at different times in 1756 read before the Royal Society by Mr. Collinson. It is not possible to determine the exact date of their composition. — ED.

[2] "From Experiments and Observations on Electricity," London, 1769, p. 280. — ED. "These Letters and Papers are a Philosophical Correspondence between Mr. *Franklin* and some of his *American* Friends. Mr. *Collinson*

As water is a conductor as well as metals, it is to be considered whether the velocity of the electric fire might not be discovered by means of water; whether a river, or lake, or sea, may not be made part of the circuit through which the electric fire passes? instead of the circuit all of wire, as in the above experiment.

Whether in a river, lake, or sea, the electric fire will not dissipate and not return to the bottle? or, will it proceed in straight lines through the water the shortest course possible back to the bottle?

If the last, then suppose one brook that falls into *Delaware* doth head very near to a brook that falls into *Schuylkill*, and let a wire be stretched and supported as before, from the head of the one brook to the head of the other, and let the one end communicate with the water, and let one person

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communicated them to the Royal Society, where they were read at different meetings during the year 1756. But Mr. *Franklin* having particularly requested that they might not be printed, none of them were inserted in the Transactions. Mr. *F.* had at that time an intention of revising them, and pursuing some of the enquiries farther; but finding that he is not like to have sufficient leisure, he has at length been induced, imperfect as they are, to permit their publication, as some of the hints they contain may possibly be useful to others in their philosophical researches." — *Note* in "Experiments and Observations on Electricity," London, 1769, p. 165. The note refers to this article, Franklin's reply, and the "Physical and Meteorological Observations." — ED.

stand in the other brook, holding the *Leyden* bottle, and let another person hold that end of the wire not in the water, and touch the ring of the bottle. If the electric fire will go as in the last question, then will it go down the one brook to *Delaware* or *Schuylkill*, and down one of them to their meeting, and up the other and the other brook; the time of its doing this may possibly be observable, and the further upwards the brooks are chosen, the more observable it would be.

Should this be not observable, then suppose the two brooks falling into *Sasquehana* and *Delaware*, and proceeding as before, the electric fire may, by that means, make a circuit round the North Cape of *Virginia*, and go many hundreds of miles, and in doing that, it would seem, it must take some observable time.

If still no observable time is found in that experiment, then suppose the brooks falling the one into the *Ohio*, and the other into *Sasquehana* or *Potomack;* in that the electric fire would have a circuit of some thousands of miles to go down *Ohio* to *Missisippi*, to the Bay of *Mexico*, round *Florida*, and round the South Cape of *Virginia;* which, I think, would give some observable time, and discover exactly the velocity.

But if the electric fire dissipates or weakens in the water, as I fear it does, these experiments will not answer.

Answer to the Foregoing; by B. F.[1]

SUPPOSE a tube of any length open at both ends, and containing a moveable wire of just the same length, that fills its bore. If I attempt to introduce the end of another wire into the same tube, it must be done by pushing forward the wire it already contains; and the instant I press and move one end of that wire, the other end is also moved; and in introducing one inch of the same wire, I extrude, at the same time, an inch of the first, from the other end of the tube.

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[1] Read at the Royal Society, Dec. 23, 1756. — ED.

If the tube be filled with water, and I inject an additional inch of water at one end, I force out an equal quantity at the other, in the very same instant.

And the water forced out at one end of the tube is not the very same water that was forced in at the other end at the same time, it was only in motion at the same time.

The long wire made use of in the experiment to discover the velocity of the electric fluid, is itself filled with what we call its natural quantity of that fluid, before the hook of the *Leyden* bottle is applied to one end of it.

The outside of the bottle being at the time of such application, in contact with the other end of the wire; the whole quantity of electric fluid contained in the wire is, probably, put in motion at once.

For at the instant the hook, connected with the inside of the bottle *gives out;* the coating, or outside of the bottle, *draws in* a portion of that fluid.

If such long wire contains precisely the quantity that the outside of the bottle demands, the whole will move out of the wire to the outside of the bottle, and the over quantity which the inside of the bottle contained, being exactly equal, will flow into the wire, and remain there in the place of the quantity the wire had just parted with to the outside of the bottle.

But if the wire be so long as that one tenth (suppose) of its natural quantity is sufficient to supply what the outside of the bottle demands, in such case the outside will only receive what is contained in one tenth of the wire's length, from the end next to it; though the whole will move so as to make room at the other end for an equal quantity issuing, at the same time, from the inside of the bottle.

So that this experiment only shews the extream facility with which the electric fluid moves in metal; it can never determine the velocity.

And, therefore, the proposed experiment (though well imagined and very ingenious) of sending the spark round through a vast length of space, by the waters of *Susquehannah* or *Potowmack*, and *Ohio*, would not afford the satisfaction desired, though we could be sure that the motion of the electric fluid would be in that tract, and not under ground in the wet earth by the shortest way.

B. FRANKLIN.

169. *PHYSICAL AND METEOROLOGICAL OBSERVATIONS, CONJECTURES, AND SUPPOSITIONS*[1] (A. P. S.)

THE Particles of Air are kept at a Distance from each other by their mutual Repulsion.

Every three Particles, mutually and equally repelling each other, must form an equilateral Triangle.

All the Particles of Air gravitate towards the Earth, which

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[1] The date of this paper is uncertain. It was sent to Mr. Collinson, with other philosophical papers, and a letter dated November 23d, 1753. It was read at the Royal Society, June 3, 1756. A draft of it is in the Library of Congress. It is here printed from the original in The American Philosophical Society. — ED.

Gravitation compresses them, and shortens the Sides of the Triangles; otherwise their mutual Repellency would force them to greater Distances from each other.

Whatever Particles of other Matter (not endued with that Repellency) are supported in Air, must adhere to the Particles of Air, and be supported by them: for in the Vacancies there is nothing they can rest on.

Air and Water mutually attract each other. Hence Water will dissolve in Air as Salt in Water.

The Specific Gravity of Matter is not alter'd by dividing the Matter, tho' the Superficies be increas'd. Sixteen leaden Bullets, of an Ounce each, weigh as much in Water as one of a Pound, whose Superficies is less.

Therefore the Supporting of Salt in Water is not owing to its Superficies being encreas'd.

A Lump of Salt, tho' laid at rest at the Bottom of a Vessel of Water, will dissolve therein, and its Parts move every Way, till equally diffus'd in the Water; therefore there is a mutual Attraction between Water and Salt. Every Particle of Water assumes as many of Salt as can adhere to it; when more is added, it precipitates, and will not remain suspended.

Water, in the same Manner, will dissolve in Air, every Particle of Air assuming one or more Particles of Water. When too much is added, it precipitates in Rain.

But there not being the same Contiguity between the Particles of Air as of Water, the Solution of Water in Air is not carried on without a Motion of the Air, so as to cause a fresh Accession of dry Particles.

Part of a Fluid having more of what it dissolves, will communicate to other Parts that have less. Thus very salt

Water, coming in contact with fresh, communicates its Saltness till all is equal, and the sooner if there is a little Motion of the Water.

Even Earth will dissolve or mix with Air. A Stroke of a Horse's Hoof on the Ground in a hot dusty Road, will raise a Cloud of Dust that shall, if there be a light Breeze, expand every way, till, perhaps, near as big as a common House. 'Tis not by mechanical Motion communicated to the Particles of Dust by the Hoof that they fly so far, nor by the Wind that they spread so wide; but the Air near the Ground, more heated by the hot Dust struck into it, is rarefied and rises, and in rising mixes with the cooler Air, and communicates of its Dust to it, and it is at length so diffus'd as to become invisible. Quantities of Dust are thus carried up in dry Seasons: Showers wash it from the Air, and bring it down again. For Water attracting it stronger, it quits the Air, and adheres to the Water.

Air, suffering continual Changes in the Degrees of its Heat, from various Causes and Circumstances, and, consequently, Changes in its Specific Gravity, must therefore be in continual Motion.

A small Quantity of Fire mix'd with Water (or Degree of Heat therein) so weakens the Cohesion of its Particles that those on the Surface easily quit it, and adhere to the Particles of Air.

A greater Degree of Heat is required to break the Cohesion between Water and Air.

Air moderately heated will support a greater Quantity of Water invisibly than cold Air; for its Particles being by Heat repell'd to a greater Distance from each other, thereby more easily keep the Particles of Water that are annex'd to them from running into Cohesions that would obstruct, refract, or reflect the Light.

Hence, when we breathe in warm Air, tho' the same Quantity of Moisture may be taken up from the Lungs, as when we breathe in cold Air, yet that Moisture is not so visible.

Water being extreamly heated, *i.e.* to the degree of Boiling, its Particles in quitting it so repel each other, as to take up vastly more Space than before, and by that Repellency support themselves, expelling the Air from the Space they occupy. That Degree of Heat being lessen'd, they again mutually attract; and having no Air Particles mixed to adhere to, by which they might be supported and kept at a Distance, they instantly fall, coalesce, and become Water again.

The Water commonly diffus'd in our atmosphere never receives such a Degree of Heat from the Sun, or other Cause, as Water has when boiling; it is not therefore supported by such Heat, but by adhering to Air.

Water being dissolv'd in, and adhering to Air, that Air will not readily take up Oil, because of the natural Repellency between Water and Oil.

Hence cold Oils evaporate but slowly, the Air having generally a Quantity of dissolv'd Water.

Oil being heated extreamly, the Air that approaches its Surface will be also heated extreamly; the Water then quitting it, it will attract and carry off Oil, which can now adhere to it. Hence the quick Evaporation of Oil heated to a great degree.

Oil being dissolv'd in Air, the Particles to which it adheres will not take up Water.

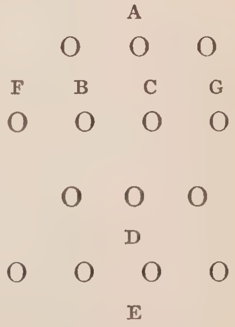
Hence the suffocating Nature of Air impregnated with burnt Grease, as from Snuffs of Candles and the like. A certain Quantity of Moisture should be every Moment discharg'd and taken away from the Lungs: Air that has been frequently breath'd, is already overloaded, and, for that Reason, can take no more, so will not answer the End. Greasy Air refuses to touch it. In both cases Suffocation for want of the Discharge.

Air will attract and support many other Substances.

A Particle of Air loaded with adhering Water, or any other Matter, is heavier than before, and would descend.

The Atmosphere suppos'd at rest, a loaded descending Particle must act with a Force on the Particles it passes between, or meets with, sufficient to overcome, in some degree, their mutual Repellency, and push them nearer to each other.

Thus, supposing the Particles *A*, *B*, *C*, *D*, and the other near them, to be at the Distance caus'd by their mutual Repellency (confin'd by their common Gravity), if *A* would descend to *E*, it must pass between *B* and *C*; when it comes between *B* and *C*, it will be nearer to them than before, and must either have push'd them nearer to *F* and *G*, contrary to their mutual Repellency, or pass through by a Force exceeding its Repellency with them. It then approaches *D*, and, to move it out of the way, must act on it with a Force sufficient to overcome its Repellency with the two next lower Particles, by which it is kept in its present Situation.



Every Particle of Air, therefore, will bear any Load inferior to the Force of these Repulsions.

Hence the Support of Fogs, Mists, Clouds.

Very warm Air, clear tho' supporting a very great Quantity of Moisture, will grow turbid and cloudy on the Mixture of a colder Air: As foggy, turbid Air will grow clear by warming.

Thus the Sun, shining on a morning Fog, dissipates it; Clouds are seen to waste in a sunshiny Day.

But Cold condenses and renders visible the Vapour; a Tankard or Decanter fill'd with cold Water will condense the Moisture of warm, clear Air on its Outside, where it becomes visible as Dew, coalesces into Drops, descends in little Streams.

The Sun heats the Air of our Atmosphere most near the Surface of the Earth; for there, besides the direct Rays, there are many Reflections. Moreover the Earth, itself being heated, communicates of its Heat to the neighbouring Air.

The higher Regions, having only the direct Rays of the Sun passing thro' them, are comparatively very cold. Hence the cold Air on the Tops of Mountains, and Snow on some of them all the Year, even in the torrid Zone. Hence Hail in Summer.

If the Atmosphere were all of it (both above and below) always of the same Temper as to cold or heat, then the upper Air would always be *rarer* than the lower, because the Pressure on it is less; consequently lighter, and therefore would keep its Place.

But the upper Air may be more condensed by cold, than the lower Air by Pressure; the lower more expanded by

Heat than the upper, for Want of Pressure. In such case the upper Air will become the heavier, the lower the lighter.

The lower Region of Air being heated and expanded heaves up, and supports for some time the colder, heavier Air above, and will continue to support it while the Equilibrium is kept. Thus Water is supported in an inverted open Glass, while the Equilibrium is maintained by the equal Pressure upwards of the Air below; but the Equilibrium by any Means breaking, the Water descends on the heavier Side, and the Air rises into its Place.

The lifted heavy, cold Air over a heated Country, becoming by any Means unequally supported, or unequal in its Weight, the heaviest Part descends first, and the Rest follows impetuously. Hence Gusts after Heats, and Hurricanes in hot Climates. Hence the Air of Gusts and Hurricanes cold, tho' in hot Climes and Seasons; it coming from above.

The cold Air descending from above, as it penetrates our warm Region full of watery Particles, condenses them, renders them visible, forms a Cloud thick and dark, overcasting sometimes, at once, large and extensive; sometimes, when seen at a Distance, small at first, gradually increasing; the cold Edge or Surface of the Cloud condensing the Vapours next it, which form smaller Clouds that join it, increase its Bulk, it descends with the Wind and its acquired Weight, draws nearer the Earth, grows denser with continual additions of Water, and discharges heavy Showers.

Small black Clouds thus appearing in a clear Sky, in hot Climates, portend Storms, and warn Seamen to hand their Sails.

The Earth turning on its Axis in about twenty-four hours, the equatorial Parts must move about fifteen Miles in each Minute; in Northern and Southern Latitudes this Motion is gradually less to the Poles, and there nothing.

If there was a general Calm over the Face of the Globe, it must be by the Air's moving in every Part as fast as the Earth or Sea it covers.

He that sails, or rides, has insensibly the same Degree of Motion as the Ship or Coach with which he is connected. If the Ship strikes the Shore, or the Coach stops suddenly, the Motion continuing in the Man, he is thrown forward. If a Man were to jump from the Land into a swift-sailing Ship, he would be thrown backward (or towards the Stern) not having at first the Motion of the Ship.

He that travels by Sea or Land towards the Equinoctial, gradually acquires Motion; from it, loses.

But if a Man were taken up from Latitude 40 (where suppose the Earth's Surface to move twelve Miles per Minute) and immediately set down at the Equinoctial, without changing the Motion he had, his Heels would be struck up, he would fall Westward. If taken up from the Equinoctial and set down in Latitude 40, he would fall Eastward.

The Air under the Equator, and between the Tropics, being constantly heated and rarefied by the Sun, rises. Its Place is supplied by Air from Northern and Southern Latitudes, which, coming from Parts where the Earth and Air had less Motion, and not suddenly acquiring the quicker Motion of the equatorial Earth,[1] appears an East Wind blowing westward; the Earth moving from West to East, and slipping under the Air.

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[1] See a paper on this subject, by the late ingenious Mr. Hadley, in *The Philosophical Transactions*, wherein this hypothesis for explaining the trade-winds first appeared. — F.

Thus, when we ride in a Calm it seems a Wind against us; if we ride with the Wind, and faster, even that will seem a small Wind against us.

The Air rarefied between the Tropics, and rising, must flow in the higher Region North and South. Before it rose, it had acquir'd the greatest Motion the Earth's Rotation could give it. It retains some Degree of this Motion, and descending in higher Latitudes, where the Earth's Motion is less, will appear a Westerly Wind, yet tending towards the equatorial Parts, to supply the Vacancy occasioned by the Air of the lower Regions flowing thitherwards.

Hence our general cold Winds are about Northwest; our Summer cold Gusts the same.

The Air in sultry Weather, tho' not cloudy, has a kind of Haziness in it, which makes Objects at a Distance appear dull and indistinct. This Haziness is occasion'd by the great Quantity of Moisture equally diffused in that Air. When by the cold Wind blowing down among it, it is condensed into Clouds, and falls in Rain, the Air becomes purer and clearer. Hence, after Gusts, distant Objects appear distinct, their Figures sharply terminated.

Extream cold Winds congeal the Surface of the Earth, by carrying off its Fire. Warm Winds, afterwards blowing over that frozen Surface, will be chill'd by it. Could that frozen Surface be turned under, and a warmer turned up from beneath it, those warm Winds would not be chilled so much.

The Surface of the Earth is also sometimes much heated by the Sun; and such heated Surface, not being changed, Heats the Air that moves over it.

Seas, Lakes, and great Bodies of Water, agitated by the Winds, continually change Surfaces; the cold Surface in Winter is turned under by the Rolling of the Waves, and a warmer turned up; in Summer, the warm is turned under, and colder turned up. Hence the more equal Temper of Sea Water, and the Air over it. Hence, in Winter, Winds from the Sea seem warm, Winds from the Land cold. In Summer, the contrary.

Therefore the Lakes northwest of us,[1] as they are not so much frozen nor so apt to freeze as the Earth, rather moderate than increase the Coldness of our Winter Winds.

The Air over the Sea, being warmer, and therefore lighter in Winter than the Air over the frozen Land, may be another Cause of our general Northwest Winds, which blow off to Sea at right Angles from our North American Coast; the warm, light sea Air rising, the heavy, cold land Air pressing into its Place.

Heavy Fluids, descending, frequently form Eddies or Whirlpools, as is seen in a Funnel, where the Water acquires a circular Motion, receding every Way from a Center, and leaving a Vacancy in the middle, greatest above, and lessening downwards, like a speaking Trumpet, its big End upwards.

Air descending or ascending may form the same kind of Eddies or Whirlings, the Parts of Air acquiring a circular Motion, and receding from the Middle of the Circle by a centrifugal Force, and leaving there a Vacancy; if descending, greatest above, and lessening downwards; if ascending, greatest below, and lessening upwards, like a Speaking-Trumpet, standing its big End on the Ground.

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[1] In Pensylvania. F.

When the Air descends with Violence in some Places, it may rise with equal Violence in others, and form both kinds of Whirlwinds.

The Air, in its whirling Motion receding every Way from the Center or Axis of the Trumpet, leaves there a Vacuum, which cannot be filled through the Sides, the whirling Air, as an Arch, preventing; it must then press in at the open Ends.

The greatest Pressure inwards must be at the lower End, the greatest Weight of the surrounding Atmosphere being there. The Air entering rises within, and carries up Dust, Leaves, and even heavier Bodies, that happen in its Way, as the Eddy or Whirl passes over Land.

If it passes over Water, the Weight of the surrounding Atmosphere forces up the Water into the Vacuity, part of which, by Degrees, joins with the whirling Air, and adding Weight, and receiving accelerated Motion, recedes still farther from the Center or Axis of the Trump, as the Pressure lessens, and at last, as the Trump widens, is broken into small Particles, and so united with Air as to be supported by it, and become black Clouds at the Top of the Trump.

Thus these Eddies may be Whirlwinds at Land, Water-Spouts at Sea. A Body of Water so raised, may be suddenly let fall, when the Motion, &c. has not Strength to support it, or the whirling Arch is broken so as to admit the Air; falling in the Sea, it is harmless, unless Ships happen under it; but, if in the progressive Motion of the Whirl, it has mov'd from the sea over the Land, and then breaks, sudden, violent, and mischievous Torrents are the Consequences.

B. FRANKLIN.

170. METEOROLOGICAL OBSERVATIONS[1] (A. P. S.)

I AGREE with you, that it seems absurd to suppose that a Body can act where it is not. I have no Idea of Bodies at a Distance attracting or repelling one another without the Assistance of some Medium, tho' I know not what that Medium is, or how it operates. When I speak of Attraction or Repulsion, I make use of those Words for want of others more proper, and intend only to express *Effects* which I see, and not *Causes* of which I am ignorant. When I press a blown Bladder between my Knees, I find I cannot bring its Sides together, but my Knees feel a springy Matter, pushing them back to a greater Distance, or repelling them. I conclude that the Air it contains is the Cause. And when I operate on the Air, and find I cannot by Pressure force its Particles into Contact, but they still spring back against the Pressure, I conceive there must be some Medium between its Particles that prevents their Closing, tho' I cannot tell what it is. And if I were acquainted with that Medium, and found its Particles to approach and recede from each other according to the Pressure they suffer'd, I should imagine there must be some finer Medium between them, by which these Operations were performed.

I allow that increase of the Surface of a Body may occasion it to descend slower in Air, Water, or any other Fluid; but do not conceive, therefore, that it lessens its Weight. Where the increas'd Surface is so dispos'd as that in its falling, a greater Quantity of the Fluid it sinks in must be moved out of its Way, a greater Time is required for such Removal. Four square Feet of Sheet-Lead Sinking in Water *broadways*, cannot descend near so fast as it would *edgeways*, yet its Weight in the Hydrostatic Ballance, would I imagine be the same, whether suspended by the Middle or by a Corner.

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[1] Written in reply to Cadwallader Colden, November 19, 1753, and read at the Royal Society, November 4, 1756. Printed from the rough draft in A. P. S.

I make no doubt but that Ridges of high Mountains do often interrupt, stop, reverberate, or turn the Winds that blow against them, according to the different degrees of Strength of the Winds, and the Angles of Incidence. I suppose too, that the cold upper Parts of Mountains may condense the warmer Air that comes near them, and so by making it specifically heavier, cause it to descend on one or both sides of the Ridge into the warmer Valleys, which will seem a Wind blowing from the Mountain.

Damp Winds, tho' not colder by the Thermometer, give a more uneasy sensation of Cold, than dry ones. Because (to speak like an Electrician) they *conduct* better, that is, are better fitted to convey away the Heat from our Bodies: The Body cannot feel *without* itself; our Sensation of Cold is not in the Air *without* the Body, but in those Parts of the Body which have been depriv'd of their Heat by the Air. My Desk and its Lock are, I suppose, of the same temperament when they have long been expos'd to the same Air; but now, if I lay my Hand on the Wood, it does not seem so cold to me as the Lock; because (as I imagine) Wood is not so good a Conductor, to receive and convey away the Heat from my Skin and the adjacent Flesh, as Metal is. Take a Piece of Wood of the Size and Shape of a Dollar between the Thumb and Fingers of one Hand, and a Dollar in like manner with the other Hand; place the

Edges of both, at the same time, in the Flame of a Candle; and tho' the Edge of the wooden Piece takes Flame, and the metal Piece does not, yet you will be oblig'd to drop the latter before the former, it conducting the Heat more suddenly to your Fingers. Thus we can, without Pain handle Glass and China Cups filled with hot Liquors, as Tea, &c., but not silver ones. A Silver Tea-pot must have a wooden Handle. Perhaps it is for the same Reason, that woollen Garments keep the Body warmer than Linen ones equally thick; Woollen keeping the Natural Heat in, or, in other Words, not conducting it out to the Air.

In regard to Water-spouts, having in a long Letter to a Gentleman of the same Sentiment with you as to their Direction said all that I have to say in support of my Opinion, I need not repeat the Arguments therein contain'd, as I intend to send you a Copy of it by some other Opportunity, for your Perusal. I imagine you will find all the Appearances you saw, accounted for by my Hypothesis. I thank you for communicating the Account of them. At present I would only say, that the Opinion of Winds being generated in Clouds by Fermentation, is new to me, and I am unacquainted with the Facts on which it is founded. I likewise find it difficult to conceive of Winds confin'd in the Bodys of Clouds, which I imagine have little more solidity than the Fogs on the Earth's Surface. The Objection from the Freshness of Rain-Water is a strong one, but I think I have answered it in the Letter above mentioned, to which I must beg Leave at present to refer you.

171. TO WILLIAM SMITH[1]

Philadelphia, November 27. 1753.

Dear Sir,

Having written to you fully, *via* Bristol, I have now little to add. Matters relating to the Academy remain *in statu quo*. The trustees would be glad to see a rector established there, but they dread entering into new engagements till they are got out of debt; and I have not yet got them wholly over to my opinion, that a good professor, or teacher of the higher branches of learning, would draw so many scholars as to pay great part, if not the whole of his salary. Thus, unless the Proprietors of the province shall think fit to put the finishing hand to our institution, it must, I fear, wait some few years longer, before it can arrive at that state of perfection, which to me it seems now capable of; and all the pleasure I promised myself in seeing you settled among us vanishes into smoke.

But good Mr. Collinson writes me word, that no endeavours of his shall be wanting; and he hopes, with the Archbishop's assistance, to be able to prevail with our Proprietors. I pray God grant them success. My son presents his affectionate regards, with, dear Sir, yours, &c.

B. Franklin.

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[1] From "Life and Correspondence of the Rev. William Smith, D.D.," by H. W. Smith, Philadelphia, 1879, Vol. I, p. 28.

172. TO CADWALLADER COLDEN[1]

Philadelphia, December 6, 1753.

DEAR SIR,

I received your favour of the 19th past, with some remarks on my meteorological paper, for which I thank you and return some observations on those remarks, hoping by this friendly intercourse of sentiments and objections some advantage will arise, to the increase of true knowledge.

I sent you our treaty some time since. You will find very little in it; but I have hopes it will introduce a regulation of our Indian trade, by the government taking it in hand, and furnishing the Indians with goods at the cheapest rate without aiming at profit, as is done by Massachusetts; by which means I think we must vastly undersell the French, and thereby attach the Indians more firmly to the British interest.

Mr. Collinson certainly received your answer to Kastner. I think one of his letters to me mentions it.

I send you herewith a copy of my paper on the *Increase of Mankind;* the only one I have, so must request you to return it. That on the *Air*, &c., is what you have already seen. The third mentioned to you by Mr. Collinson, concerning the Germans, is scarcely worth sending. It will contain nothing new to you.[2]

I congratulate you on Lord Halifax's approbation of your conduct in public affairs. From such a man the honour is great, and the satisfaction; but the approbation of your own mind is something more valuable in itself, and it is what I doubt not you will always enjoy.

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[1] First printed by Sparks.

[2] See letter to R. Jackson, p. 139. — ED.

I should like to see Pike's book[1] some time or other, when you can conveniently send it. With great respect and esteem, I am, Sir, &c.

B. FRANKLIN.

173. TO JAMES BOWDOIN[2]

Philadelphia, December 13, 1753.

DEAR SIR,

I received your favour of the 12th ultimo, with the law of your province for regulating the Indian trade, for which I thank you, and for the remarks that accompany it, which clearly evince the usefulness of the law, and I hope will be sufficient to induce our Assembly to follow your example.

I have yet received no particulars of the unhappy gentleman's death at Petersburg, (whose fate I lament.) One of the papers says, that all the letters from thence confirm the account, and mentions his name, (Professor Richmann,) but nothing farther. No doubt we shall have a minute account of the accident with all its circumstances, in some of the magazines or the Transactions of the Royal Society.[3]

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[1] "*Philosophia Sacra;* or the Principles of Natural Philosophy, extracted from Divine Revelation. By SAMUEL PIKE." The author attempts to establish and explain a system of philosophy, accounting for the motions of the heavenly bodies, and the operations of nature, by quotations from the Scriptures. In an *Appendix* he remarks on the philosophical principles of Mr. Colden, as laid down in his treatise on *Gravitation.* — S.

[2] First printed by Sparks.

[3] Professor Richmann was killed at St. Petersburg, July 26, 1753, while repeating Franklin's experiment for bringing electricity from the clouds. He received a shock, which caused instantaneous death. A full account of the circumstances attending his death is contained in *The Philosophical Transactions,* Vol. XLVIII, p. 765; and Vol. XLIX, p. 61. — ED.

The observation you made of the sea water emitting more and less light in different tracts passed through by your boat is new; and your manner of accounting for it ingenious. It is indeed very possible, that an extremely small animalcule, too small to be visible even by the best glasses, may yet give a visible light. I remember to have taken notice, in a drop of kennel water, magnified by the solar microscope to the bigness of a cart-wheel, there were numbers of visible animalcules of various sizes swimming about; but I was sure there were likewise some which I could not see, even with that magnifier; for the wake they made in swimming to and fro was very visible, though the body that made it was not so. Now, if I could see the wake of an invisible animalcule, I imagine I might much more easily see its light if it were of the luminous kind. For how small is the extent of a ship's wake, compared with that of the light of her lantern.

My barometer will not show the luminous appearance by agitating the mercury in the dark, but I think yours does. Please to try whether it will, when agitated, attract a fine thread hung near the top of the tube.

As to the answer to Nollet, if I were going on with it, I should be extremely glad of your peeping into it (as you say) now and then, that I might correct it by your advice. The materials in short hints have been long collected and methodized; they only want to be clothed with expression. But soon after my return from New England, I received the enclosed from Monsieur Dalibard, wherein he tells me that he is preparing an answer, not only to the Abbé, but to some others that have wrote against my doctrine, which will be published the beginning of this winter. This, with a good deal of business, and a little natural indolence, has made me neglect finishing my answer, till I shall see what is done by him. Perhaps it may then appear unnecessary for me to do any thing farther in it. And will not one's vanity be more gratified in seeing one's adversary confuted by a disciple, than even by one's self? I am, however, a little concerned for Dalibard, when I find by his letter, that he has been so far imposed on by the Abbé's confident assertion that a charged bottle placed on an electric *per se* loses its electricity, as to attempt to account for it, when the thing is absolutely not fact. I have in answer wrote him my sentiments on that and some other particulars of the Abbé's book, which I hope will get to hand before his answer is published.

I am, with the greatest esteem and regard,
Dear Sir, your most obliged humble servant,
B. FRANKLIN.

174. TO PETER COLLINSON[1]

[Philadelphia,] April 18, 1754.

SIR,

Since *September* last, having been abroad on two long journeys, and otherwise much engag'd, I have made but few observations on the *positive* and *negative* state of electricity in the clouds. But Mr. *Kinnersley* kept his rod and bells in good order, and has made many.

Once this winter the bells rang a long time during a fall of snow, tho' no thunder was heard, or lightning seen. Sometimes the flashes and cracks of the electric matter between bell and bell were so large and loud as to be heard all over the house: but by all his observations, the clouds were constantly in a negative state, till about six weeks ago, when he found them once to change in a few minutes from the negative to the positive. About a fortnight after that he made another observation of the same kind; and last *Monday* afternoon, the wind blowing hard at S. E. and veering round to N. E., with many thick, driving clouds, there were five or six successive changes from negative to positive, and from positive to negative, the bells stopping a minute or two between every change. Besides the methods mentioned in my paper of *September* last, of discovering the electrical state of the clouds, the following may be us'd. When your bells are ringing, pass a rubb'd tube by the edge of the bell, connected with your pointed rod: if the cloud is then in a negative state, the ringing will stop; if in a positive state, it will continue, and perhaps be quicker. Or, suspend a very small cork ball by a fine silk thread, so that it may hang close to the edge of the rod-bell: then whenever the bell is electrified, whether positively or negatively, the little ball will be repell'd, and continue at some distance from the bell. Have ready a round-headed glass stopper of a decanter, rub it on your side till it is electrified, then present it to the cork ball. If the electricity in the ball is positive, it will be repell'd from the glass stopper, as well as from the bell; if negative, it will fly to the stopper.

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[1] From "Experiments and Observations on Electricity," London, 1769, p. 128.

[B. Franklin.]

175. TO WILLIAM STRAHAN[1] (P. C.)

Philada., April 18, 1754.

Dear Sir: — By Capt. Gibbon I received a Copy of yours *per* the *Myrtylla*, but she is not yet arrived. I am glad to hear the Bills I sent you for £100 Sterl'g are accepted, and that the Goods were to be shipt soon for Connecticut. Bryant is arrived at New York, who left London the Middle of March. I have not heard whether he has brought them. I now enclose you a Bill for £20 Sterling, drawn by Mrs. Steevens, on Alex^r. Grant, Mercht., London; and what ballance may remain unpaid I will send as soon as I can know it.

I am glad you have sent again the Things that were shipt in *Davis*. As to that Loss, give yourself no concern about it. It is mine, and but a Trifle. I do not know or regard what the Custom of Merchants may be in such Cases; but when I reflect how much Trouble I have given you from time to time in my little Affairs, that you never charg'd me Commissions, and have frequently been in Advance for me, were the Loss much greater, to be sure I should not suffer it to fall on you.

Benja Mecom writes me that he has remitted you Thirty Pounds Sterlg, which I am much pleased to hear. And am glad you have not sent him the great Parcel of Books which you mention he has wrote for. He is a young Lad, quite unacquainted with the World, and, I fear, would be much embarrass'd if he went suddenly into Dealings too deep for his Stock. The People of those Islands might buy his Books; but I know they are very dull Pay, and he would find it impracticable to collect the Money when it ought to be sent you. Pray keep him within Bounds; let him have good saleable Sortments, but small, and do not suffer him to be more than Fifty Pounds in your Debt, if so much; it is best for him to proceed gradually, and deal more as his Stock and Experience increases. I am thankful to you for prudently delaying to send what he so indiscretely wrote for, till you had advis'd me of it. Our Compliments to Mrs. Strahan and your Children. I am, with great Esteem, Dr Sir, your most humble Servant,

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[1] From the private collection of Hon. S. W. Pennypacker. — Ed.

B. FRANKLIN.

Please to send me the Philosophical Transactions from the End of Martin's Abridgment, 1744, to the present time. I suppose they are not abridged. Send them large as they come out; also Dampier's Voyages 4 vols., 8vo.

176. PAPERS RELATING TO A PLAN OF UNION OF THE COLONIES

ADOPTED BY COMMISSIONERS ASSEMBLED AT ALBANY IN JULY, 1754[1]

SHORT HINTS

TOWARDS A SCHEME FOR UNITING THE NORTHERN COLONIES.

A GOVERNOR-GENERAL.

To be appointed by the king.

To be a military man.

To have a salary from the crown.

To have a negation on all acts of the Grand Council, and carry into execution whatever is agreed on by him and that Council.

GRAND COUNCIL.

One member to be chosen by the Assembly of each of the smaller colonies, and two or more by each of the larger, in proportion to the sums they pay yearly into the general treasury.

MEMBERS' PAY.

—— shillings sterling per diem, during their sitting, and milage for travelling expenses.

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[1] For a brief review of the historical circumstances out of which came this Plan of Union, see Introduction, pp. 156–157. — ED.

PLACE AND TIME OF MEETING.

To meet —— times in every year, at the capital of each colony, in course, unless particular circumstances and emergencies require more frequent meetings, and alteration in the course of places. The governor-general to judge of those circumstances, &c., and call by his writs.

GENERAL TREASURY.

Its fund, an excise on strong liquors, pretty equally drunk in the colonies, or duty on liquor imported, or —— shillings on each license of a public house, or excise on superfluities, as tea, &c. &c. All which would pay in some proportion to the present wealth of each colony, and increase as that wealth increases, and prevent disputes about the inequality of quotas. To be collected in each colony and lodged in their treasury, to be ready for the payment of orders issuing from the governor-general and grand council jointly.

DUTY AND POWER OF THE GOVERNOR-GENERAL AND GRAND COUNCIL.

To order all Indian treaties. Make all Indian purchases not within proprietary grants. Make and support new settlements, by building forts, raising and paying soldiers to garrison the forts, defend the frontiers, and annoy the enemy. Equip guard-vessels to scour the coasts from privateers in time of war, and protect the trade, and every thing that shall be found necessary for the defence and support of the colonies in general, and increasing and extending their settlements, &c.

For the expense, they may draw on the fund in the treasury of any colony.

MANNER OF FORMING THIS UNION.

The scheme, being first well considered, corrected, and improved by the commissioners at Albany, to be sent home, and an act of Parliament obtained for establishing it.[1]

LETTER FROM JAMES ALEXANDER TO CADWALLADER COLDEN, RESPECTING THE ABOVE HINTS.

New York, [June] 9, 1754.

DEAR SIR,

I had some conversation with Mr. Franklin and Mr. Peters as to the uniting the colonies, and the difficulties thereof, by effecting our liberties on the one hand, or being ineffectual on the other. Whereon Mr. Franklin promised to set down some hints of a scheme that he thought might do, which accordingly he sent to me to be transmitted to you, and it is enclosed.

To me, it seems extremely well digested, and at first sight avoids many difficulties that had occurred to me.

Some difficulties still remain. For example, there cannot be found men tolerably well skilled in warlike affairs to be chosen for the grand council, and there is danger in communicating to them the schemes to be put in execution, for fear of a discovery to the enemy. Whether this may not be in some measure remedied by a council of state, of a few persons to be chosen by the grand council at their stated meetings, which council of state to be always attending the governor-general, and with him to digest beforehand all matters to be laid before the next grand council, and only the general, but not the particular, plans of operation.

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[1] This paper was communicated to James Alexander, with the following note.

"New York, June 8, 1754.

"Mr. Alexander is requested to peruse these *Hints*, and make remarks in correcting or improving the scheme, and send the paper with such remarks to Dr. Colden for his sentiments, who is desired to forward the whole to Albany, to their very humble servant,

"B. FRANKLIN."

That the governor-general and that council of state issue orders for the payment of moneys, so far as the grand council have beforehand agreed may be issued for any general plan to be executed. That the governor-general and council of state, at every meeting of the grand council, lay before them their accounts and transactions since the last meeting, at least so much of their transactions as is safe to be made public. This council of state to be something like that of the United Provinces, and the grand council to resemble the States-General.

That the capacity and ability of the persons to be chosen of the council of state and grand council be their only qualifications, whether members of the respective bodies that choose them or not. That the grand council, with the governor-general, have power to increase, but not to decrease, the duties laid by act of Parliament, and have power to issue bills of credit on emergencies, to be sunk by the increased funds, bearing a small interest, but not to be tenders. I am, dear Sir,

Your most obedient,
and most humble servant,
JAMES ALEXANDER.

REMARKS ON THE HINTS FOR A SCHEME OF UNION, BY CADWALLADER COLDEN.

GOVERNOR-GENERAL.

It seems agreed on all hands that something is necessary to be done for uniting the colonies in their mutual defence, and it seems to be likewise agreed that it can only be done effectually by act of Parliament. For this reason I suppose that the necessary funds for carrying it into execution, in pursuance of the ends proposed by it, cannot be otherwise obtained. If it were thought, that the Assemblies of the several colonies may agree to lay the same duties, and apply them to the general defence and security of all the colonies, no need of an act of Parliament.

Quære; Which best for the colonies; by Parliament, or by the several Assemblies?

The King's minister, so long since as the year 1723, or 1724, had thoughts of sending over a governor-general of all the colonies, and the Earl of Stair was proposed as a fit person. It is probable, the want of a suitable support of the dignity of that office prevented that scheme's being carried into execution, and that the ministry and people of England think that this charge ought to be borne by the colonies.

GRAND COUNCIL.

Quære; Is the grand council, with the governor-general, to have a legislative authority? If only an executive power, objections may be made to their being elective. It would be in a great measure a change of the constitution, to which I suspect the crown will not consent. We see the inconveniences attending the present constitution, and remedies may be found without changing it, but we cannot foresee what may be the consequences of a change in it. If the grand council be elected for a short time, steady measures cannot be pursued. If elected for a long time, and not removable by the crown, they may become dangerous. Are they to have a negative on the acts of the governor-general? It is to be considered that England will keep their colonies, as far as they can, dependent on them; and this view is to be preserved in all schemes to which the King's consent is necessary.

PLACE AND TIME OF MEETING.

It may be thought dangerous to have fixed meetings of the grand council, and in all the colonies at certain times and places. It is a privilege which the Parliament has not, nor the Privy Council, and may be thought destructive of the constitution.

GENERAL TREASURY.

Some estimate ought to be made of the produce which may be reasonably expected from the funds proposed to be raised by duties on liquors, &c., to see whether it will be sufficient for the ends proposed. This I think may be done from the custom-houses in the most considerable places for trade in the colonies.

MANNER OF FORMING THE UNION.

No doubt any private person may, in a proper manner, make any proposals which he thinks for the public benefit; but, if they are to be made by the commissioners of the several colonies, who now meet at Albany, it may be presumed that they speak the sense of their constituents. What authority have they to do this? I know of none from either the Council or Assembly of New York.

However, these things may be properly talked of in Conversation among the commissioners for further information, and in order to induce the several Assemblies to give proper powers to commissioners to meet afterwards for this purpose.[1]

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[1] The preceding papers were first printed in the Appendix to SEDGWICK'S

REASONS AND MOTIVES

ON WHICH THE PLAN OF UNION WAS FORMED

THE commissioners from a number of the northern colonies, being met at Albany, and considering the difficulties that have always attended the most necessary general measures for the common defence, or for the annoyance of the enemy, when they were to be carried through the several particular Assemblies of all the colonies; some Assemblies being before at variance with their governors or councils, and the several branches of the government not on terms of doing business with each other; others taking the opportunity, when their concurrence is wanted, to push for favourite laws, powers, or points, that they think could not at other times be obtained, and so creating disputes and quarrels; one Assembly waiting to see what another will do, being afraid of doing more than its share, or desirous of doing less, or refusing to do any thing because its country is not at present so much exposed as others, or because another will reap more immediate advantage; from one or other of which causes, the Assemblies of six out of seven colonies applied to, had granted no assistance to Virginia, when lately invaded by the French, though purposely convened, and the importance of the occasion earnestly urged upon them; — considering moreover, that one principal encouragement to the French, in invading and insulting the British American dominions, was their knowledge of our

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Life of William Livingston. The manuscripts, from which they were copied, are contained in the archives of the NEW YORK HISTORICAL SOCIETY. The paper containing Colden's Remarks, is in his own handwriting. — S.

disunited state, and of our weakness arising from such want of union; and that from hence different colonies were, at different times, extremely harassed, and put to great expense both of blood and treasure, who would have remained in peace, if the enemy had had cause to fear the drawing on themselves the resentment and power of the whole; — the said commissioners, considering also the present encroachments of the French, and the mischievous consequences that may be expected from them, if not opposed with our force, came to an unanimous resolution; *That a union of the colonies is absolutely necessary for their preservation.*

The manner of forming and establishing this union was the next point. When it was considered, that the colonies were seldom all in equal danger at the same time, or equally near the danger, or equally sensible of it; that some of them had particular interests to manage, with which a union might interfere; and that they were extremely jealous of each other; it was thought impracticable to obtain a joint agreement of all the colonies to a union, in which the expense and burthen of defending any of them should be divided among them all; and if ever acts of Assembly in all the colonies could be obtained for that purpose, yet as any colony, on the least dissatisfaction, might repeal its own act, and thereby withdraw itself from the union, it would not be a stable one, or such as could be depended on; for if only one colony should, on any disgust, withdraw itself, others might think it unjust and unequal, that they, by continuing in the union, should be at the expense of defending a colony, which refused to bear its proportionable part, and would therefore one after another withdraw, till the whole crumbled into its original parts. Therefore the commissioners came to another previous resolution, *That it was necessary the Union should be established by act of Parliament.*

They then proceeded to sketch out a *Plan of Union*, which they did in a plain and concise manner, just sufficient to show their sentiments of the kind of union, that would best suit the circumstances of the colonies, be most agreeable to the people, and most effectually promote his Majesty's service, and the general interest of the British empire. This was respectfully sent to the Assemblies of the several colonies for their consideration, and to receive such alterations and improvements as they should think fit and necessary; after which it was proposed to be transmitted to England to be perfected, and the establishment of it there humbly solicited.

This was as much as the commissioners could do.[1]

REASONS AGAINST PARTIAL UNIONS.

It was proposed by some of the commissioners to form the colonies into two or three distinct unions; but for these reasons that proposal was dropped even by those that made it; viz.

1. In all cases where the strength of the whole was necessary to be used against the enemy, there would be the same difficulty in degree, to bring the several unions to unite together, as now the several colonies; and consequently the same delays on our part and advantage to the enemy.

2. Each union would separately be weaker than when

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[1] Dr. Davenant was so well convinced of the expediency of a union of the colonies, that he recites, at full length, a plan contrived, as he says, with good judgment, for the purpose. *Davenant*, Vol. I, pp. 40, 41, of Sir C. Whitworth's edition. — V.

joined by the whole, obliged to exert more force, be oppressed by the expense, and the enemy less deterred from attacking it.

3. Where particular colonies have *selfish views*, as New York, with regard to Indian trade and lands; or are less exposed, being covered by others, as New Jersey, Rhode Island, Connecticut, Maryland; have particular whims and prejudices against warlike measures in general, as Pennsylvania, where the Quakers predominate; such colonies would have more weight in a partial union, and be better able to oppose and obstruct the measures necessary for the general good, than where they are swallowed up in the general union.

4. The Indian trade would be better regulated by the union of the whole than by the partial unions. And as Canada is chiefly supported by that trade, if it could be drawn into the hands of the English, as it might be if the Indians were supplied on moderate terms, and by honest traders appointed by and acting for the public, that alone would contribute greatly to the weakening of our enemies.

5. The establishing of new colonies westward on the Ohio and the Lakes, a matter of considerable importance to the increase of British trade and power, to the breaking that of the French, and to the protection and security of our present colonies, would best be carried on by a joint union.

6. It was also thought, that by the frequent meetings together of commissioners or representatives from all the colonies, the circumstances of the whole would be better known, and the good of the whole better provided for; and that the colonies would by this connexion learn to consider themselves, not as so many independent states, but as members of

the same body; and thence be more ready to afford assistance and support to each other, and to make diversions in favour even of the most distant, and to join cordially in any expedition for the benefit of all against the common enemy.

These were the principal reasons and motives for forming the Plan of Union as it stands. To which may be added this, that as the union of the — [The remainder of this article was lost.]

PLAN OF UNION

ADOPTED BY THE CONVENTION AT ALBANY; WITH THE REASONS AND MOTIVES FOR EACH ARTICLE OF THE PLAN.[1]

It is proposed that humble application be made for an act of Parliament of Great Britain, by virtue of which one general government may be formed in America, including all the said colonies, within and under which government each colony may retain its present constitution, except in the particulars wherein a change may be directed by the said act, as hereafter follows.

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[1] The several *Articles*, as originally adopted are printed in Italic type; the reasons and motives in Roman.

It is to be observed, that the union was to extend to the colonies of New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, Maryland, Virginia, North Carolina, and South Carolina, (being all the British Colonies at that time in North America, except Georgia and Nova Scotia,) "for their mutual defence and security, and for extending the British settlements in North America." Another plan was proposed in the Convention, which included only New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, and New Jersey. This was printed in the volume of the COLLECTIONS of the Massachusetts Historical Society for 1800. It is a rough draft of the above Plan, with some unimportant variations. It would seem, by the *Hints* communicated to Mr. Alexander, that Franklin himself did not at first contemplate anything more than a union of the northern colonies. — S.

PRESIDENT-GENERAL AND GRAND COUNCIL.

That the said general government be administered by a President-General, to be appointed and supported by the crown; and a Grand Council, to be chosen by the representatives of the people of the several colonies met in their respective Assemblies.

It was thought that it would be best the president-general should be supported as well as appointed by the crown, that so all disputes between him and the grand council concerning his salary might be prevented; as such disputes have been frequently of mischievous consequence in particular colonies, especially in time of public danger. The quit-rents of crown lands in America might in a short time be sufficient for this purpose. This choice of members for the grand council is placed in the house of representatives of each government, in order to give the people a share in this new general government, as the crown has its share by the appointment of the president-general.

But it being proposed by the gentlemen of the council of New York, and some other counsellors among the commissioners, to alter the plan in this particular, and to give the governors and council of the several provinces a share in the choice of the grand council, or at least a power of approving and confirming, or of disallowing, the choice made by the house of representatives, it was said,

"That the government or constitution, proposed to be formed by the plan, consists of two branches; a president-general appointed by the crown, and a council chosen by the people, or by the people's representatives, which is the same thing.

"That by a subsequent article, the council chosen by the people can effect nothing without the consent of the president-general appointed by the crown; the crown possesses therefore full one half of the power of this constitution.

"That in the British constitution, the crown is supposed to possess but one third, the lords having their share.

"That this constitution seemed rather more favourable for the crown.

"That it is essential to English liberty, that the subject should not be taxed but by his own consent, or the consent of his elected representatives.

"That taxes to be laid and levied by this proposed constitution will be proposed and agreed to by the representatives of the people, if the plan in this particular be preserved;

"But if the proposed alteration should take place, it seemed as if matters may be so managed, as that the crown shall finally have the appointment, not only of the president-general, but of a majority of the grand council; for seven out of eleven governors and councils are appointed by the crown;

"And so the people in all the colonies would in effect be taxed by their governors.

"It was therefore apprehended, that such alterations of the plan would give great dissatisfaction, and that the colonies could not be easy under such a power in governors, and such an infringement of what they take to be English liberty.

"Besides, the giving a share in the choice of the grand council would not be equal with respect to all the colonies, as their constitutions differ. In some, both governor and council are appointed by the crown. In others, they are both appointed by the proprietors. In some, the people have a share in the choice of the council; in others, both government and council are wholly chosen by the people. But the house of representatives is everywhere chosen by the people; and, therefore, placing the right of choosing the grand council in the representatives is equal with respect to all.

"That the grand council is intended to represent all the several houses of representatives of the colonies, as a house of representatives doth the several towns or counties of a colony. Could all the people of a colony be consulted and unite in public measures, a house of representatives would be needless, and could all the Assemblies conveniently consult and unite in general measures, the grand council would be unnecessary.

"That a house of commons or the house of representatives, and the grand council, are thus alike in their nature and intention. And, as it would seem improper that the King or House of Lords should have a power of disallowing or appointing members of the House of Commons; so likewise, that a governor and council appointed by the crown should have a power of disallowing or appointing members of the grand council, who, in this constitution, are to be the representatives of the people.

"If the governors and councils therefore were to have a share in the choice of any that are to conduct this general government, it should seem more proper that they choose the president-general. But, this being an office of great trust and importance to the nation, it was thought better to be filled by the immediate appointment of the crown.

"The power proposed to be given by the plan to the grand council is only a concentration of the powers of the several Assemblies in certain points for the general welfare; as the power of the president-general is, of the powers of the several governors in the same points.

"And as the choice therefore of the grand council, by the representatives of the people, neither gives the people any new powers, nor diminishes the power of the crown, it was thought and hoped the crown would not disapprove of it."

Upon the whole, the commissioners were of opinion, that the choice was most properly placed in the representatives of the people.

ELECTION OF MEMBERS.

That within months after the passing such act, the house of representatives, that happen to be sitting within that time, or that shall be especially for that purpose convened, may and shall choose members for the grand council, in the following proportion, that is to say,

Massachusett's Bay,	7
New Hampshire,	2
Connecticut,	5
Rhode Island,	2
New York,	4
New Jersey,	3
Pennsylvania,	6
Maryland,	4
Virginia,	7
North Carolina,	4
South Carolina,	4
	48

It was thought, that if the least colony was allowed two, and the others in proportion, the number would be very great, and the expense heavy; and that less than two would not be convenient, as, a single person being by any accident prevented appearing at the meeting, the colony he ought to appear for would not be represented. That as the choice was not immediately popular, they would be generally men of good abilities for business, and men of reputation for integrity; and that forty-eight such men might be a number sufficient. But though it was thought reasonable that each colony should have a share in the representative body in some degree according to the proportion it contributed to the general treasury, yet the proportion of wealth or power of the colonies is not to be judged by the proportion here fixed; because it was at first agreed, that the greatest colony should not have more than seven members, nor the least less than two; and the setting these proportions between these two extremes was not nicely attended to, as it would find itself, after the first election, from the sums brought into the treasury, as by a subsequent article.

PLACE OF FIRST MEETING.

—who shall meet for the first time at the city of Philadelphia in Pennsylvania, being called by the President-General as soon as conveniently may be after his appointment.

Philadelphia was named as being nearer the centre of the colonies, where the commissioners would be well and cheaply accommodated. The high roads, through the whole extent, are for the most part very good, in which forty or fifty miles a day may very well be, and frequently are, travelled. Great part of the way may likewise be gone by water. In summer time, the passages are frequently performed in a week from Charleston to Philadelphia and New York; and from Rhode Island to New York through the Sound, in two or three days; and from New York to Philadelphia, by water and land, in two days, by stage, boats and wheel carriages that set out every other day. The journey from Charleston to Philadelphia may likewise be facilitated by boats running up Chesapeake Bay three hundred miles. But if the whole journey be performed on horseback, the most distant members, viz. the two from New Hampshire and from South Carolina may probably render themselves at Philadelphia in fifteen or twenty days; the majority may be there in much less time.

NEW ELECTION.

That there shall be a new election of the members of the Grand Council every three years; and, on the death or resignation of any member, his place should be supplied by a new choice at the next sitting of the Assembly of the colony he represented.

Some colonies have annual assemblies, some continue during a governor's pleasure; three years was thought a reasonable medium, as affording a new member time to improve himself in the business, and to act after such improvement, and yet giving opportunities, frequently enough, to change him, if he has misbehaved.

PROPORTION OF MEMBERS AFTER THE FIRST THREE YEARS.

That after the first three years, when the proportion of money arising out of each colony to the general treasury can be known, the number of members to be chosen for each colony shall from time to time, in all ensuing elections, be regulated *by that proportion, yet so as that the number to be chosen by any one province be not more than seven, nor less than two.*

By a subsequent article it is proposed, that the general council shall lay and levy such general duties, as to them may appear most equal and least burthensome, &c. Suppose, for instance, they lay a small duty or excise on some commodity imported into or made in the colonies, and pretty generally and equally used in all of them, as rum perhaps, or wine; the yearly produce of this duty or excise, if fairly collected, would be in some colonies greater, in others less, as the colonies are greater or smaller. When the collector's accounts are brought in, the proportions will appear; and from them it is proposed to regulate the proportion of representatives to be chosen at the next general election, within the limits however of seven and two. These numbers may therefore vary in the course of years, as the colonies may in the growth and increase of people. And thus the quota of tax from each colony would naturally vary with its circumstances thereby preventing all disputes and dissatisfaction about the just proportions due from each; which might otherwise produce pernicious consequences, and destroy the harmony and good agreement that ought to subsist between the several parts of the Union.

MEETINGS OF THE GRAND COUNCIL, AND CALL.

That the Grand Council shall meet once in every year, and oftener if occasion require, at such time and place as they shall adjourn to at the last preceding meeting, or as they shall be called to meet at by the President-General on any emergency; he having first obtained in writing the consent of seven of the members to such call, and sent due and timely notice to the whole.

It was thought, in establishing and governing new colonies or settlements, regulating Indian trade, Indian treaties, &c., there would be every year sufficient business arise to require at least one meeting, and at such meeting many things might be suggested for the benefit of all the colonies. This annual meeting may either be at a time or place certain, to be fixed by the president-general and grand council at their first meeting; or left at liberty, to be at such time and place as they shall adjourn to, or be called to meet at by the president-general.

In time of war it seems convenient, that the meeting should be in that colony, which is nearest the seat of action.

The power of calling them on any emergency seemed necessary to be vested in the president-general; but, that such power might not be wantonly used to harass the members, and oblige them to make frequent long journeys to little purpose, the consent of seven at least to such call was supposed a convenient guard.

CONTINUANCE.

That the Grand Council have power to choose their speaker; and shall neither be dissolved, prorogued, nor continued sitting longer than six weeks at one time, without their own consent or the special command of the crown.

The speaker should be presented for approbation; it being convenient, to prevent misunderstandings and disgusts, that the mouth of the councils should be a person agreeable, if possible, both to the council and president-general.

Governors have sometimes wantonly exercised the power of proroguing or continuing the sessions of assemblies, merely to harass the members and compel a compliance; and sometimes dissolve them on slight disgusts. This it was feared might be done by the president-general, if not provided against; and the inconvenience and hardship would be greater in the general government than in particular colonies, in proportion to the distance the members must be from home during sittings, and the long journeys some of them must necessarily take.

MEMBERS' ALLOWANCE.

That the members of the Grand Council shall be allowed for their service ten shillings sterling per diem, during their session and journey to and from the place of meeting; twenty miles to be reckoned a day's journey.

It was thought proper to allow *some* wages, lest the expense might deter some suitable persons from the service; and not to allow *too great* wages, lest unsuitable persons should be tempted to cabal for the employment, for the sake of gain. Twenty miles were set down as a day's journey, to allow for accidental hindrances on the road, and the greater expenses of travelling than residing at the place of meeting.

ASSENT OF PRESIDENT-GENERAL AND HIS DUTY.

That the assent of the President-General be requisite to all acts of the Grand Council, and that it be his office and duty to cause them to be carried into execution.

The assent of the president-general to all acts of the grand council was made necessary, in order to give the crown its due share of influence in this government, and connect it with that of Great Britain. The president-general, besides one half of the legislative power, hath in his hands the whole executive power.

POWER OF PRESIDENT-GENERAL AND GRAND COUNCIL; TREATIES OF PEACE AND WAR.

That the President-General, with the advice of the Grand Council, hold or direct all Indian treaties, in which the general interest of the colonies may be concerned; and make peace or declare war with Indian nations.

The power of making peace or war with Indian nations is at present supposed to be in every colony, and is expressly granted to some by charter, so that no new power is hereby intended to be granted to the colonies. But as, in consequence of this power, one colony might make peace with a nation that another was justly engaged in war with; or make war on slight occasions without the concurrence or approbation of neighbouring colonies, greatly endangered by it; or make particular treaties of neutrality in case of a general war, to their own private advantage in trade, by supplying the common enemy; of all which there have been instances; it was thought better, to have all treaties of a general nature under a general direction, that so the good of the whole may be consulted and provided for.

INDIAN TRADE.

That they make such laws as they judge necessary for regulating all Indian trade.

Many quarrels and wars have arisen between the colonies and Indian nations, through the bad conduct of traders who cheat the Indians after making them drunk, &c., to the great expense of the colonies, both in blood and treasure. Particular colonies are so interested in the trade, as not to be willing to admit such a regulation as might be best for the whole; and therefore it was thought best under a general direction.

INDIAN PURCHASES.

That they make all purchases, from Indians for the crown, of lands not now within the bounds of particular colonies, or that shall not be within their bounds when some of them are reduced to more convenient dimensions.

Purchases from the Indians, made by private persons, have been attended with many inconveniences. They have frequently interfered, and occasioned uncertainty of titles, many disputes and expensive law suits, and hindered the settlement of the land so disputed. Then the Indians have been cheated by such private purchases, and discontent and wars have been the consequence. These would be prevented by public fair purchases.

Several of the colony charters in America extend their bounds to the South Sea, which may be perhaps three or four thousand miles in length to one or two hundred miles in breadth. It is supposed they must in time be reduced to dimensions more convenient for the common purposes of government.

Very little of the land in those grants is yet purchased of the Indians.

It is much cheaper to purchase of them, than to take and maintain the possession by force; for they are generally very reasonable in their demands for land; and the expense of guarding a large frontier against their incursions is vastly great; because all must be guarded, and always guarded, as we know not where or when *to expect them.*

NEW SETTLEMENTS.

That they make new settlements on such purchases, by granting lands in the King's name, reserving a quit-rent to the crown for the use of the general treasury.

It is supposed better that there should be one purchaser than many; and that the crown should be that purchaser, or the Union in the name of the crown. By this means the bargains may be more easily made, the price not enhanced by numerous bidders, future disputes about private Indian purchases, and monopolies of vast tracts to particular persons (which are prejudicial to the settlement and peopling of the country), prevented; and, the land being again granted in small tracts to the settlers, the quit-rents reserved may in time become a fund for support of government, for defence of the country, ease of taxes, &c.

Strong forts on the Lakes, the Ohio, &c., may, at the same time they secure our present frontiers, serve to defend new colonies settled under their protection; and such colonies would also mutually defend and support such forts, and better secure the friendship of the far Indians.

A particular colony has scarce strength enough to extend itself by new settlements, at so great a distance from the old; but the joint force of the Union might suddenly establish a new colony or two in those parts, or extend an old colony to particular passes, greatly to the security of our present frontiers, increase of trade and people, breaking off the French communication between Canada and Louisiana, and speedy settlement of the intermediate lands.

The power of settling new colonies is therefore thought a valuable part of the plan, and what cannot so well be executed by two unions as by one.

LAWS TO GOVERN THEM.

That they make laws for regulating and governing such new settlements, till the crown shall think fit to form them into particular governments.

The making of laws suitable for the new colonies, it was thought, would be properly vested in the president-general and grand council; under whose protection they must at first necessarily be, and who would be well acquainted with their circumstances, as having settled them. When they are become sufficiently populous, they may by the crown be formed into complete and distinct governments.

The appointment of a sub-president by the crown, to take place in case of the death or absence of the president-general, would perhaps be an improvement of the plan; and if all the governors of particular provinces were to be formed into a standing council of state, for the advice and assistance of the president-general, it might be another considerable improvement.

RAISE SOLDIERS AND EQUIP VESSELS, &C.

That they raise and pay soldiers and build forts for the defence of any of the colonies, and equip vessels of force to guard the coasts and protect the trade on the ocean, lakes, or great rivers; but they shall not impress men in any colony, without the consent of the legislature.

It was thought, that quotas of men, to be raised and paid by the several colonies, and joined for any public service, could not always be got together with the necessary expedition. For instance, suppose one thousand men should be wanted in New Hampshire on any emergency. To fetch them by fifties and hundreds out of every colony, as far as South Carolina, would be inconvenient, the transportation chargeable, and the occasion perhaps passed before they could be assembled; and therefore that it would be best to raise them (by offering bounty-money and pay) near the place where they would be wanted, to be discharged again when the service should be over.

Particular colonies are at present backward to build forts at their own expense, which they say will be equally useful to their neighbouring colonies; who refuse to join, on a presumption that such forts *will* be built and kept up, though they contribute nothing. This unjust conduct weakens the whole; but the forts being for the good of the whole, it was thought best they should be built and maintained by the whole, out of the common treasury.

In the time of war, small vessels of force are sometimes necessary in the colonies to scour the coasts of small privateers. These being provided by the Union will be an advantage in turn to the colonies which are situated on the sea, and whose frontiers on the landside, being covered by other colonies, reap but little immediate benefit from the advanced forts.

POWER TO MAKE LAWS, LAY DUTIES, &C.

That for these purposes they have power to make laws, and lay and levy such general duties, imposts, or taxes, as to them shall appear most equal and just (considering the ability and other circumstances of the inhabitants in the several colonies), and such as may be collected with the least incon-

venience to the people; rather discouraging luxury, than loading industry with unnecessary burthens.

The laws which the president-general and grand council are empowered to make *are such only* as shall be necessary for the government of the settlements; the raising, regulating, and paying soldiers for the general service; the regulating of Indian trade; and laying and collecting the general duties and taxes. They should also have a power to restrain the exportation of provisions to the enemy from any of the colonies, on particular occasions, in time of war. But it is not intended that they may interfere with the constitution and government of the particular colonies; who are to be left to their own laws, and to lay, levy, and apply their own taxes as before.

GENERAL TREASURER AND PARTICULAR TREASURER.

That they may appoint a General Treasurer and Particular Treasurer in each government, when necessary; and from time to time may order the sums in the treasuries of each government into the general treasury; or draw on them for special payments, as they find most convenient.

The treasurers here meant are only for the general funds, and not for the particular funds of each colony, which remain in the hands of their own treasurers at their own disposal.

MONEY, HOW TO ISSUE.

Yet no money to issue but by joint orders of the President-General and Grand Council; except where sums have been appropriated to particular purposes, and the President-General is previously empowered by an act to draw such sums.

To prevent misapplication of the money, or even application that might be dissatisfactory to the crown or the people, it was thought necessary, to join the president-general and grand council in all issues of money.

ACCOUNTS.

That the general accounts shall be yearly settled and reported to the several Assemblies.

By communicating the accounts yearly to each Assembly, they will be satisfied of the prudent and honest conduct of their representatives in the grand council.

QUORUM.

That a quorum of the Grand Council, empowered to act with the President-General, do consist of twenty-five members; among whom there shall be one or more from a majority of the colonies.

The quorum seems large, but it was thought it would not be satisfactory to the colonies in general, to have matters of importance to the whole transacted by a smaller number, or even by this number of twenty-five, unless there were among them one at least from a majority of the colonies; because otherwise, the whole quorum being made up of members from three or four colonies at one end of the union, something might be done that would not be equal with respect to the rest, and thence dissatisfaction and discords might rise to the prejudice of the whole.

LAWS TO BE TRANSMITTED.

That the laws made by them for the purposes aforesaid shall not be repugnant, but, as near as may be, agreeable *to the laws of England, and shall be transmitted to the King in Council for approbation, as soon as may be after their passing; and if not disapproved within three years after presentation, to remain in force.*

This was thought necessary for the satisfaction of the crown, to preserve the connexion of the parts of the British empire with the whole, of the members with the head, and to induce greater care and circumspection in making of the laws, that they be good in themselves and for the general benefit.

DEATH OF THE PRESIDENT-GENERAL.

That, in case of the death of the President-General, the Speaker of the Grand Council for the time being shall succeed, and be vested with the same powers and authorities, to continue till the King's pleasure be known.

It might be better, perhaps, as was said before, if the crown appointed a vice-president, to take place on the death or absence of the president-general; for so we should be more sure of a suitable person at the head of the colonies. On the death or absence of both, the speaker to take place (or rather the eldest King's governor) till his Majesty's pleasure be known.

OFFICERS, HOW APPOINTED.

That all military commission officers, whether for land or sea service, to act under this general constitution, shall be nominated by the President-General; but the approbation of the Grand Council is to be obtained, before they receive their commissions. And all civil officers are to be nominated by the Grand Council, and to receive the President-General's approbation before they officiate.

It was thought it might be very prejudicial to the service, to have officers appointed unknown to the people, or unacceptable, the generality of Americans serving willingly under officers they know; and not caring to engage in the service under strangers, or such as are often appointed by governors through favour or interest. The service here meant, is not the stated, settled service in standing troops; but any sudden and short service, either for defence of our colonies, or invading the enemy's country; (such as the expedition to Cape Breton in the last war; in which many substantial farmers and tradesmen engaged as common soldiers, under officers of their own country, for whom they had an esteem and affection; who would not have engaged in a standing army, or under officers from England.) It was therefore thought best to give the council the power of approving the officers, which the people will look upon as a great security of their being good men. And without some such provision as this, it was thought the expense of engaging men in the service on any emergency would be much greater, and the number who could be induced to engage much less; and that therefore it would be most for the King's service and general benefit of the nation, that the prerogative should relax a little in this particular throughout all the colonies in America; as it had already done much more in the charters of some particular colonies, viz. Connecticut and Rhode Island.

The civil officers will be chiefly treasurers and collectors of taxes; and the suitable persons are most likely to be known by the council.

VACANCIES, HOW SUPPLIED.

But, in case of vacancy by death or removal of any officer civil or military under this constitution, the Governor of the *province in which such vacancy happens may appoint, till the pleasure of the President-General and Grand Council can be known.*

The vacancies were thought best supplied by the governors in each province, till a new appointment can be regularly made; otherwise the service might suffer before the meeting of the president-general and grand council.

EACH COLONY MAY DEFEND ITSELF ON EMERGENCY, &C.

That the particular military as well as civil establishments in each colony remain in their present state, the general constitution notwithstanding; and that on sudden emergencies any colony may defend itself, and lay the accounts of expense thence arising before the President-General and General Council, who may allow and order payment of the same, as far as they judge such accounts just and reasonable.

Otherwise the union of the whole would weaken the parts, contrary to the design of the union. The accounts are to be judged of by the president-general and grand council, and allowed if found reasonable. This was thought necessary to encourage colonies to defend themselves, as the expense would be light when borne by the whole; and also to check imprudent and lavish expense in such defences.[1]

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[1] In Carey's *American Museum*, 1789, February (pp. 190–194), March (pp. 285–288), April (pp. 365–368), there is an elaborate article, "Albany Plan of Union," at the conclusion of which appears the following: —

"Remark February 9, 1789.

"On Reflection it now seems probable, that if the foregoing Plan or something like it had been adopted and carried into Execution, the subsequent Separation of the Colonies from the Mother Country might not so soon have happened, nor the Mischiefs suffered on both sides have occurred perhaps during another Century. For the Colonies, if so united, would have really

177. TO CADWALLADER COLDEN[1]

Dear Sir, Philadelphia, August 30, 1754.

I have now before me your favours of July 23d, and August 15th. I return Mr. Pike's *Philosophia Sacra.* His manner of philosophizing is much out of my way.

been, as they then thought themselves, sufficient to their own Defence, and being trusted with it, as by the Plan, an Army from Britain, for that purpose would have been unnecessary; The Pretences for framing the Stamp Act would then not have existed, nor the other Projects for drawing a Revenue from America to Britain by Act of Parliament, which were the Causes of the Breach & attended with such terrible Expense of Blood and Treasure; so that the different Parts of the Empire might still have remained in Peace and Union. But the Fate of this Plan was singular. For then after many Days thorough Discussion of all its Parts in Congress it was unanimously agreed to, and Copies ordered to be sent to the Assembly of each Province for Concurrence, and one to the Ministry in England for the Approbation of the Crown. The Crown disapproved it, as having placed too much Weight in the Democratic Part of the Constitution; and every Assembly as having allowed too much to Prerogative. So it was totally rejected."

The above, as printed in *The Museum*, omits the word "Remark," but bears date at the bottom, Philadelphia, April 9, 1789. It was written by Dr. Franklin and accompanied the following letter: —

"Sir

"I thank you for the Opportunity you propose to give me of making Alterations in those old Pieces of mine which you intend to republish in your *Museum.* I have no Inclination to make any Changes in them; but should like to see the Proof Sheet, supposing your Copies may possibly be incorrect. — And if you have no Objection, you may follow the Albany Plan with the enclosed *Remark* but not as from me.

"I am, Sir
"Your humble Servant,
(Signed) "B. Franklin."

Addressed on the back: —
"Mr. Mathew Carey
"Printer of the Museum."

The originals of the above papers, in the handwriting of Dr. Franklin, are in my possession.
Henry Carey Baird.
Philadelphia. — Ed.

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[1] First printed by Sparks.

I am now about to proceed on my eastern journey, but hope to be at home in the winter, the best season for electrical experiments, when I will gladly make any you desire. In the mean time I should be glad if you would communicate the thoughts you mention, that I may consider them. If you please, direct them to me at Boston.

There must, I think, be some mistake in what you mention, of my having sent to Mr. Collinson the paper you wrote me on water-spouts. I have the original now by me, and cannot recollect that I ever copied it, or that I ever communicated the contents of it to Mr. Collinson or any one. Indeed I have long had an intention of sending him all I have wrote, and all I have received from others on this curious subject, without mentioning names; but it is not yet done.

Our Assembly were not inclined to show any approbation of the plan of union; yet I suppose they will take no steps to oppose its being established by the government at home. Popular elections have their inconveniencies in some cases; but in establishing new forms of government, we cannot always obtain what we may think the best; for the prejudices of those concerned, if they cannot be removed, must be in some degree complied with. However, I am of opinion, that when troops are to be raised in America, the officers appointed must be men they know and approve, or the levies will be made with more difficulty, and at much greater expense.

It is not to be expected that a Quaker Assembly will establish any but Quaker schools; nor will they ever agree to a tax for the payment of any clergy. It is intended by the Society, that the schoolmasters among the Germans shall teach English.

I am glad the representation is agreeable to your sentiments. The letter to Lord Halifax I suppose your son sends from New York.

Since my return I have received from Italy a book in quarto, entitled *Dell' Elettricismo Artificiale e Naturale Libri Due, di Giovambattista Beccaria de' CC. RR. delle Scuole Pie*, printed at Turin, and dedicated to the King. The author professedly goes on my principles; he seems a master of method, and has reduced to systematic order the scattered experiments and positions delivered in my paper. At the end of the first book, there is a letter addressed to the Abbé Nollet, in which he answers some of the Abbé's principal objections. This letter being translated into French, I send you the translation for your perusal, and will send you the Italian book itself by some future opportunity, if you desire it. It pleases me the more, in that I find the author has been led by sundry observations and experiments, though different from mine, to the same strange conclusion, viz. *that some thunder-strokes are from the earth upwards;* in which I feared I should for some time have been singular.

With the greatest esteem and regard I am, dear Sir, &c.

B. Franklin.

P. S. Please to send me the French piece by the first opportunity, after you have perused it, directed to me at Boston.

178. TO RICHARD PETERS (P. H. S.)

New York, Sept. 17. 1754.

DEAR SIR

The Bearer, M^r^. Elphinston, has a secret Art, by which he teaches, even a veteran Scrawler, to write fairly in 30 Hours. I have often heard you laugh at the Secretary's Writing, and I hope he will take this Opportunity of mending his Hand; for tho' we are about to have a new Governor, and, they say, a new Assembly, I do not desire to see a new Secretary: I only think it convenient that what he writes may possibly be read.

But to be serious. Many Gentlemen and Ladies of this Place have improv'd their Hands exceedingly under this Gentleman's Direction, and in a Time so short as is really surprizing; the Testimonies will be produc'd to you. M^r^. Elphinston visits Philadelphia, hoping, from the Character of the Place, that so useful an Art will not fail to meet with Encouragement there. He bears the Character here of an honest worthy Man, and as such I beg leave to recommend him to your Patronage. With the greatest Respect, I am

Dear Sir

Your affectionate hum^e^. Serv^t^,

R. Peters Esq. B FRANKLIN

P. S. I have heard our good Friend M^r^. Allen sometimes wishing for a better Hand; this may be a good Opportunity for him to acquire it easily. His Example and yours would be the Making of the Artist's Fortune.

179. THREE LETTERS TO GOVERNOR SHIRLEY

LETTER I.[1]

CONCERNING THE VOICE OF THE PEOPLE IN CHOOSING THE RULERS BY WHOM TAXES ARE IMPOSED.

Tuesday Morning. [December 17, 1754.]

SIR,

I return you the loose sheets of the plan, with thanks to your Excellency for communicating them.

I apprehend, that excluding the *people* of the colonies from all share in the choice of the grand council will give extreme dissatisfaction, as well as the taxing them by act of Parliament, where they have no representative. It is very possible, that this general government might be as well and faithfully administered without the people, as with them; but where heavy burthens have been laid on them, it has been found useful to make it, as much as possible, their own act; for they bear better when they have, or think they have some share in the direction; and when any public measures are generally grievous, or even distasteful to the people, the wheels of government move more heavily.

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[1] These letters first appeared in *The London Chronicle*, February 6 and 8, 1766. They were published again in *The London Magazine*, February, 1766, and in *The Pennsylvania Chronicle*, January 16, 1769. They were republished in Almon's "Remembrancer" in 1776. — ED.

LETTER II.

ON THE IMPOSITION OF DIRECT TAXES UPON THE COLONIES WITHOUT THEIR CONSENT.

Wednesday Morning. [December 18, 1754.]

SIR,

I mentioned it yesterday to your Excellency as my opinion, that excluding the *people* of the colonies from all share in the choice of the grand council, would probably give extreme dissatisfaction, as well as the taxing them by act of Parliament, where they have no representative. In matters of general concern to the people, and especially where burthens are to be laid upon them, it is of use to consider, as well what they will be apt to think and say, as what they ought to think; I shall therefore, as your Excellency requires it of me, briefly mention what of either kind occurs to me on this occasion.

First they will say, and perhaps with justice, that the body of the people in the colonies are as loyal, and as firmly attached to the present constitution, and reigning family, as any subjects in the king's dominions.

That there is no reason to doubt the readiness and willingness of the representatives they may choose, to grant from time to time such supplies for the defence of the country, as shall be judged necessary, so far as their abilities will allow.

That the people in the colonies, who are to feel the immediate mischiefs of invasion and conquest by an enemy in the loss of their estates, lives and liberties, are likely to be better judges of the quantity of forces necessary to be raised and maintained, forts to be built and supported, and of their own abilities to bear the expence, than the parliament of England at so great a distance.

That governors often come to the colonies merely to make fortunes, with which they intend to return to Britain; are not always men of the best abilities or integrity; have many of them no estates here, nor any natural connexions with us, that should make them heartily concerned for our welfare; and might possibly be fond of raising and keeping up more forces than necessary, from the profits accruing to themselves, and to make provision for their friends and dependants.

That the counsellors in most of the colonies being appointed by the crown, on the recommendation of governors, are often of small estates, frequently dependant on the governors for offices, and therefore too much under influence.

That there is therefore great reason to be jealous of a power in such governors and councils, to raise such sums as they shall judge necessary, by draft on the lords of the treasury, to be afterwards laid on the colonies by act of parliament, and paid by the people here; since they might abuse it by projecting useless expeditions, harassing the people, and taking them from their labour to execute such projects, merely to create offices and employments, and gratify their dependants, and divide profits.

That the parliament of England is at a great distance, subject to be misinformed and misled by such Governors and Councils, whose united interests might probably secure them against the effect of any complaint from hence.

That it is supposed an undoubted right of Englishmen, not to be taxed but by their own consent given through their representatives.

That the colonies have no representatives in parliament.

That to propose taxing them by parliament, and refuse them the liberty of choosing a representative council, to meet in the colonies, and consider and judge of the necessity of any general tax, and the quantum, shews suspicion of their loyalty to the crown, or of their regard for their country, or of their common sense and understanding, which they have not deserved.

That compelling the colonies to pay money without their consent, would be rather like raising contributions in an enemy's country, than taxing of Englishmen for their own public benefit.

That it would be treating them as a conquered people, and not as true British subjects.

That a tax laid by the representatives of the colonies might easily be lessened as the occasions should lessen, but being once laid by parliament under the influence of the representations made by Governors, would probably be kept up and continued for the benefit of Governors, to the grievous burthen and discouragement of the colonies, and prevention of their growth and increase.

That a power in Governors to march the inhabitants from one end of the British and French colonies to the other, being a country of at least 1500 square miles, without the approbation or the consent of their representatives first obtained, such expeditions might be grievous and ruinous to the people, and would put them on footing with the subjects of France in Canada, that now groan under such oppression from their Governor, who for two years past has harrassed them with long and destructive marches to Ohio.

That if the colonies in a body may be well governed by governors and councils appointed by the crown, without representatives, particular colonies may as well or better be so governed; a tax may be laid upon them all by act of parliament for support of government, and their assemblies may be dismissed as an useless part of the constitution.

That the powers proposed by the Albany Plan of Union, to be vested in a grand council representative of the people, even with regard to military matters, are not so great as those the colonies of Rhode Island and Connecticut are entrusted with by their charters, and have never abused; for by this plan, the president-general is appointed by the crown, and controls all by his negative; but in those governments, the people choose the Governor, and yet allow him no negative.

That the British colonies bordering on the French are properly frontiers of the British empire; and the frontiers of an empire are properly defended at the joint expence of the body of the people in such empire: It would now be thought hard by act of parliament to oblige the Cinque Ports or seacoasts of Britain to maintain the whole navy, because they are more immediately defended by it, not allowing them at the same time a vote in choosing members of the parliament; and if the frontiers in America bear the expence of their own defence, it seems hard to allow them no share in voting the money, judging of the necessity and sum, or advising the measures.

That besides the taxes necessary for the defence of the frontiers, the colonies pay yearly great sums to the mother-country unnoticed: For taxes paid in Britain by the landholder or artificer, must enter into and increase the price of the produce of land and of manufactures made of it; and great part of this is paid by consumers in the colonies, who thereby pay a considerable part of the British taxes.

We are restrained in our trade with foreign nations, and where we could be supplied with any manufacture cheaper from them, but must buy the same dearer from Britain; the difference of price is a clear tax to Britain.

We are obliged to carry a great part of our produce directly to Britain; and where the duties laid upon it lessen its price to the planter, or it sells for less than it would in foreign markets; the difference is a tax paid to Britain.

Some manufactures we could make, but are forbidden, and must take them of British merchants; the whole price is a tax paid to Britain.

By our greatly increasing the demand and consumption of British manufactures, their price is considerably raised of late years; the advantage is clear profit to Britain, and enables its people better to pay great taxes; and much of it being paid by us, is clear tax to Britain.

In short, as we are not suffered to regulate our trade, and restrain the importation and consumption of British superfluities (as Britain can the consumption of foreign superfluities) our whole wealth centers finally amongst the merchants and inhabitants of Britain, and if we make them richer, and enable them better to pay their taxes, it is nearly the same as being taxed ourselves, and equally beneficial to the crown.

These kind of secondary taxes, however, we do not complain of, though we have no share in the laying, or disposing of them; but to pay immediate heavy taxes, in the laying, appropriation, and disposition of which we have no part, and which perhaps we may know to be as unnecessary, as grievous, must seem hard measure to Englishmen, who cannot conceive, that by hazarding their lives and fortunes, in subduing and settling new countries, extending the dominion, and increasing the commerce of the mother nation, they have forfeited the native rights of Britons, which they think ought rather to be given to them, as due to such merit, if they had been before in a state of slavery.

These, and such kind of things as these, I apprehend, will be thought and said by the people, if the proposed alteration of the Albany plan should take place. Then the administration of the board of governors and councils so appointed, not having any representative body of the people to approve and unite in its measures, and conciliate the minds of the people to them, will probably become suspected and odious; dangerous animosities and feuds will arise between the governors and governed; and every thing go into confusion.

Perhaps I am too apprehensive in this matter; but having freely given my opinion and reasons, your Excellency can judge better than I whether there be any weight in them, and the shortness of the time allowed me, will, I hope, in some degree excuse the imperfections of this scrawl.

With the greatest respect, and fidelity, I have the honour to be,

Your Excellency's most obedient,
and most humble servant,
B. FRANKLIN.[1]

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[1] Respecting this letter, Mr. John Adams said (in his *History of the Dispute with America*, first published in 1774); "Dr. Franklin, who was known to be an active and very able man, and to have great influence in the province of Pennsylvania, was in Boston in the year 1754, and Mr. Shirley communicated to him the profound secret, the great design of taxing the colonies by

LETTER III.

ON THE SUBJECT OF UNITING THE COLONIES MORE INTIMATELY WITH GREAT BRITAIN, BY ALLOWING THEM REPRESENTATIVES IN PARLIAMENT.

Boston, Dec. 22, 1754.

SIR,

Since the conversation your Excellency was pleased to honour me with, on the subject of *uniting the colonies* more intimately with Great Britain, by allowing them *representatives in parliament*, I have something further considered that matter, and am of opinion, that such a union would be very acceptable to the colonies, provided they had a reasonable number of representatives allowed them; and that all the old acts of Parliament restraining the trade or cramping the manufactures of the colonies be at the same time repealed, and the British subjects *on this side the water* put, in those respects, on the same footing with those in Great Britain, till the new Parliament, representing the whole, shall think it for the interest of the whole to reënact some or all of them. It is not that I imagine so many representatives will be allowed the colonies, as to have any great weight by their numbers; but I think there might be sufficient to occasion those laws to be better and more impartially considered, and perhaps to overcome the interest of a petty corporation, or of any particular set of artificers or traders in England, who

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act of Parliament. This sagacious gentleman and distinguished patriot, to his lasting honor, sent the governor an answer in writing, with the following remarks on his scheme." Mr. Adams then quotes the principal parts of the above letter. — S.

heretofore seem, in some instances, to have been more regarded than all the colonies, or than was consistent with the general interest, or best national good. I think too, that the government of the colonies by a parliament, in which they are fairly represented, would be vastly more agreeable to the people, than the method lately attempted to be introduced by royal instructions, as well as more agreeable to the nature of an English constitution, and to English liberty; and that such laws as now seem to bear hard on the colonies, would (when judged by such a Parliament for the best interest of the whole) be more cheerfully submitted to, and more easily executed.

I should hope too, that by such a union, the people of Great Britain, and the people of the colonies, would learn to consider themselves, as not belonging to a different community with different interests, but to one community with one interest; which I imagine would contribute to strengthen the whole, and greatly lessen the danger of future separations.

It is, I suppose, agreed to be the general interest of any state, that its people be numerous and rich; men enough to fight in its defence, and enough to pay sufficient taxes to defray the charge; for these circumstances tend to the security of the state, and its protection from foreign power: But it seems not of so much importance, whether the fighting be done by John or Thomas, or the tax paid by William or Charles. The iron manufacture employs and enriches British subjects, but is it of any importance to the state, whether the manufacturers live at Birmingham, or Sheffield, or both, since they are still within its bounds, and their wealth and persons still at its command? Could the Goodwin Sands be laid dry by banks, and land equal to a large country thereby gained to England, and presently filled with English inhabitants, would it be right to deprive such inhabitants of the common privileges enjoyed by other Englishmen, the right of vending their produce in the same ports, or of making their own shoes, because a merchant or a shoemaker, living on the old land, might fancy it more for his advantage to trade or make shoes for them? Would this be right, even if the land were gained at the expence of the state? And would it not seem less right, if the charge and labour of gaining the additional territory to Britain had been borne by the settlers themselves? And would not the hardship appear yet greater, if the people of the new country should be allowed no representatives in the parliament enacting such impositions?

Now I look on the colonies as so many counties gained to Great Britain, and more advantageous to it than if they had been gained out of the seas around its coasts, and joined to its land: For being in different climates, they afford greater variety of produce, and being separated by the ocean, they increase much more its shipping and seamen; and since they are all included in the British empire, which has only extended itself by their means; and the strength and wealth of the parts are the strength and wealth of the whole; what imports it to the general state, whether a merchant, a smith, or a hatter, grow rich in Old or New England? And if, through increase of people, two smiths are wanted for one employed before, why may not the *new* smith be allowed to live and thrive in the *new* country, as well as the *old* one in the *old?* In fine, why should the countenance of a state be *partially* afforded to its people, unless it be most in favour of those who have most merit? And if there be any difference, those who have most contributed to enlarge Britain's empire and commerce, increase her strength, her wealth, and the numbers of her people, at the risk of their own lives and private fortunes in new and strange countries, methinks ought rather to expect some preference. With the greatest respect and esteem, I have the honour to be

Your Excellency's most obedient
and most humble servant,
B. FRANKLIN.

180. TO PETER COLLINSON[1] (P. C.)

Boston, Dec. 29. 1754

DEAR SIR

I wrote a few Lines by a Vessel that went from hence about 2 Weeks since, acknowledging the Receipt of your several favours of July 30, Aug. 6 and 23 and Sept. 18. Sundry Affairs have retarded my Return home, but to-morrow I purpose to set out.

I am much oblig'd to you for the favourable Light you put me in, to our Proprietor, as mention'd in yours of July 30. I know not why he should imagine me not his Friend, since I cannot recollect any one Act of mine that could denominate me otherwise. On the contrary if to concur with him, so far as my little Influence reach'd in all his generous and benevolent Designs and Desires of making his Province and People flourishing and happy be any Mark of my Respect and Dutyful Regard to him, there are many who would be ready to say I could not be suppos'd deficient in such Respect. The Truth is I have sought his *Interest* more than his *Favour;* others perhaps have sought both, and obtain'd at least the latter. But in my Opinion great Men are not always best serv'd by such as show on all Occasions a blind Attachment to them: An Appearance of Impartiality in general gives a Man sometimes much more Weight — when he would serve in particular Instances. I am very thankful to the Society for their favourable Reception of my last Paper. I wish it had been more worthy of their Attention. I long since promis'd you a philosophical Pacquet consisting of many Particulars, but as it contains some Oddities and some Novelties which I have not had time to dress so as to be fit for the View of your ingenious Friends, I must defer it a while longer, and beg your Excuse.

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[1] From the collection of Mr. J. Pierpont Morgan. — ED.

As to the State of the Colonies, a pretty full Representation of it was drawn up by the Commissioners at Albany, and was sent home to the Ministry with the Proceedings. However as you may perhaps have not seen it, I send you herewith the whole Treaty, and, as I have no other Copy, I must beg you would return it after Perusal.

All the Assemblies in the Colonies have, I suppose, had the Union Plan laid before them, but it is not likely, in my Opinion, that any of them will act upon it so as to agree to it, or to propose any Amendments to it. Every Body cries, a Union is absolutely necessary; but when they come to the Manner and Form of the Union, their weak Noddles are perfectly distracted. So if ever there be an Union, it must be form'd at home by the Ministry and Parliament. I doubt not but they will make a good one, and I wish it may be done this Winter. I send you withal the Remainder of Douglas's Summaries. He did not live to finish his Work.

My Respects to Mr. Watson, to whom I will write after my Return.

With the Treaty at Albany, I send you a Paper I drew up containing the Motives on which the Commissioners at Albany proceeded in forming their Plan. A Gentleman here had a Copy of me to send to Lord Halifax, which if receiv'd you need not show his L'd^p^ this; but may communicate it to our Friend Jackson. Some Things in the Plan may perhaps appear of too popular a Turn, the Commissioners from the 2 popular Governments, having a considerable Weight at the Board. When I give the Reasons on which such Article was settled as it stands, I would not be understood as expressing everywhere my own Opinion: For tho' I projected the Plan and drew it, I was oblig'd to alter some Things contrary to my Judgment or should never have been able to carry it through.

With great Esteem and Affection, I am,
D^r^ Sir,
Your most obedient hum^le^ Servant
B. Franklin.

181. TO JAMES PARKER[1] (P. C.)

Philad^a^ March 1. 1755

I am just return'd from a long Journey after near six Months' Absence, and find your favour of September 29, by which I have the agreable Advice that you expect to be able to remit me something in Smith's Affairs very soon. . . .

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[1] From the collection of Eliot Reed, Esq. There is a Postscript to the original letter containing a quotation from *Journal des Sçavants*, 1676, p. 113. This letter was received April 11, and answered June 2. — Ed.

In my last Journey I saw an Instance of a very great Quantity of Lightning conducted by a Wire no bigger than a common Knitting Needle. It was at Newbury in New England where the Spire of the Church Steeple being 70 foot in height above the Belfrey was split all to pieces and thrown about the Street in fragments; from the Bell down to the Clock plac'd in the Steeple 20 foot below the Bell there was the small wire above mentioned which communicated the Motion of the Clock to the Hammer striking the Hour on the Bell. As far as the Wire extended no Part of the Steeple was hurt by the Lightning nor below the Clock as far as the Pendulum Rod reach'd: but from the End of the Rod downwards the Lightning rent the steeple surprizingly. The Pendulum Rod was about the thickness of a small Tobacco Pipe Stem, and conducted the whole without damage to its own substance except at the End where the Lightning was accumulated it appeared melted so much as made a small Drop. But the Clock Wire was blown all to Smoke and no more of it was left than about an inch and half next the Tail of the Hammer and as much joining the Clock. Yet this is observable that tho' it was so small as not to be sufficient to conduct the Quantity with Safety to its own Substance yet it did conduct it so as to secure all that part of the Building. Excuse this Scrawl, which I have not time to copy fair. I am with much respect, Sir, etc. B. FRANKLIN.

Mr. James Parker
Antigua

182. TO MISS CATHERINE RAY,[1] [AT BLOCK ISLAND]

Philadelphia, March 4, 1755.

Dear Katy: —

Your kind letter of January 20th is but just come to hand, and I take this first opportunity of acknowledging the favour. It gives me great pleasure to hear, that you got home safe and well that day. I thought too much was hazarded, when I saw you put off to sea in that very little skiff, tossed by every wave. But the call was strong and just, a sick parent. I stood on the shore, and looked after you, till I could no longer distinguish you, even with my glass; then returned to your sister's, praying for your safe passage. Towards evening all agreed that you must certainly be arrived before that time, the weather having been so favourable; which made me more easy and cheerful, for I had been truly concerned for you.

I left New England slowly, and with great reluctance. Short day's journeys, and loitering visits on the road, for three or four weeks, manifested my unwillingness to quit a country, in which I drew my first breath, spent my earliest and most pleasant days, and had now received so many fresh marks of the people's goodness and benevolence, in the kind and affectionate treatment I had everywhere met with. I almost forgot I had a *home*, till I was more than half way towards it; till I had, one by one, parted with all my New England friends, and was got into the western borders of Connecticut, among mere strangers. Then, like an old man, who, having buried all he loved in this world, begins to think of heaven, I began to think of and wish for home; and, as I drew nearer, I found the attraction stronger and stronger. My diligence and speed increased with my impatience. I drove on violently, and made such long stretches, that a very few days brought me to my own house, and to the arms of my good old wife and children, where I remain, thanks to God, at present well and happy.

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[1] Afterwards the wife of William Greene, governor of Rhode Island. Printed from "A Collection of the Familiar Letters of Benjamin Franklin," Boston, 1833, p. 28. — Ed.

Persons subject to the *hyp* complain of the northeast wind, as increasing their malady. But since you promised to send me kisses in that wind, and I find you as good as your word, it is to me the gayest wind that blows, and gives me the best spirits. I write this during a northeast storm of snow, the greatest we have had this winter. Your favours come mixed with the snowy fleeces, which are pure as your virgin innocence, white as your lovely bosom, and — as cold. But let it warm towards some worthy young man, and may Heaven bless you both with every kind of happiness.

I desired Miss Anna Ward[1] to send you over a little book I left with her, for your amusement in that lonely island. My respects to your good father, and mother, and sister. Let me often hear of your welfare, since it is not likely I shall ever again have the pleasure of seeing you. Accept mine, and my wife's sincere thanks for the many civilities I receive from you and your relations; and do me the justice to believe me, dear girl, your affectionate, faithful friend, and humble servant, B. FRANKLIN.

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[1] Daughter of Samuel Ward, governor of Rhode Island. — ED.

P. S. My respectful compliments to your good brother Ward, and sister; and to the agreeable family of the Wards at Newport, when you see them. Adieu.

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183. ELECTRICAL EXPERIMENTS[1]

Made in Pursuance of those made by Mr. Canton, dated December 6, 1753; *with Explanations, by Benjamin Franklin.*

Philadelphia, March 14, 1755.

PRINCIPLES.

I. ELECTRIC atmospheres, that flow round non-electric bodies, being brought near each other, do not readily mix and unite into one atmosphere, but remain separate, and repel each other.

This is plainly seen in suspended cork balls, and other bodies electrified.

II. An electric atmosphere not only repels another electric atmosphere, but will also repel the electric matter contained in the substance of a body approaching it; and, without joining or mixing with it, force it to other parts of the body that contained it.

This is shown by some of the following experiments.

III. Bodies electrified negatively, or deprived of their natural quantity of Electricity repel each other, (or at least appear to do so, by a mutual receding) as well as those electrified positively, or which have electric atmospheres.

This is shewn by applying the negatively charged wire of a phial to two cork balls, suspended by silk threads, and many other experiments.

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[1] From "Experiments and Observations on Electricity," London, 1769, p. 155. Read at the Royal Society, December 18, 1755. — ED.

PREPARATION.

Fix a tassel of fifteen or twenty threads, three inches long at one end, of a tin prime conductor, (mine is about five feet long and four inches diameter) supported by silk lines.

Let the threads be a little damp, but not wet.

EXPERIMENT I.

Pass an excited glass Tube near the other end of the prime conductor, so as to give it some sparks, and the threads will diverge.

Because each thread, as well as the prime-conductor, has acquired an electric atmosphere, which repels and is repelled by the atmospheres of the other threads: if those several atmospheres would readily mix, the threads might unite, and hang in the middle of one atmosphere, common to them all.

Rub the tube afresh, and approach the prime-conductor therewith, crossways, near that end, but not nigh enough to give sparks; and the threads will diverge a little more.

Because the atmosphere of the prime-conductor is pressed by the atmosphere of the excited tube, and driven towards the end where the threads are, by which each thread acquires more atmosphere.

Withdraw the tube, and they will close as much.

They close as much, and no more; because the atmosphere of the glass tube, not having mixed with the atmosphere of the prime conductor, is withdrawn intire, having made no addition to, or diminution from it.

Bring the excited tube under the tuft of threads, and they will close a little.

They close, because the atmosphere of the glass tube repels their atmospheres, and drives part of them back on the prime conductor.

Withdraw it, and they will diverge as much.

For the portion of atmosphere which they had lost, returns to them again.

EXPERIMENT II.

Excite the glass tube, and approach the prime conductor with it, holding it across, near the end opposite to that on which the threads hang, at the distance of five or six inches. Keep it there a few seconds, and the threads of the tassels will diverge. Withdraw it, and they will close.

They diverge, because they have received electric atmospheres from the electric matter before contained in the substance of the prime conductor; but which is now repelled and driven away, by the atmosphere of the glass tube, from the parts of the prime conductor opposite and nearest to that atmosphere, and forced out upon the surface of the prime conductor at its other end, and upon the threads hanging thereto. Were it any part of the atmosphere of the glass tube that flowed over and along the prime conductor to the threads, and gave them atmospheres (as is the case when a spark is given to the prime conductor from the glass tube), such part of the tube's atmosphere would have remained, and the threads continue to diverge; but they close on withdrawing the tube, because the tube takes with it *all its own atmosphere*, and the electric matter, which had been driven out of the substance of the prime conductor, and formed atmospheres round the threads, is thereby permitted to return to its place.

Take a spark from the prime conductor near the threads, when they are diverged as before, and they will close.

For by so doing you take away their atmospheres, composed of the electric matter driven out of the substance of the prime conductor, as aforesaid, by the repellency of the atmosphere of the glass tube. By taking this spark you rob the prime conductor of part of its natural quantity of the electric matter; which part so taken is not supplied by the glass tube, for when that is afterwards withdrawn, it takes with it its whole atmosphere, and leaves the prime conductor electrised negatively, as appears by the next operation.

Then withdraw the tube, and they will open again.

For now the electric matter in the prime conductor returning to its equilibrium, or equal diffusion, in all parts of its substance, and the prime conductor having lost some of its natural quantity, the threads connected with it lose part of theirs, and so are electrised negatively, and therefore repel each other, by Pr. III.

Approach the prime conductor with the tube near the same place as at first, and they will close again.

Because the part of their natural quantity of electric fluid, which they had lost, is now restored to them again, by repulsion of the glass tube forcing that fluid to them from other parts of the prime conductor; so they are now again in their natural state.

Withdraw it, and they will open again.

For what had been restored to them, is now taken from them again, flowing back into the prime conductor, and leaving them once more electrised negatively.

Bring the excited tube under the threads, and they will diverge more.

Because more of their natural quantity is driven from them into the prime conductor, and thereby their negative Electricity increased.

EXPERIMENT III.

The prime conductor not being electrified, bring the excited tube under the tassel, and the threads will diverge.

Part of their natural quantity is thereby driven out of them into the prime conductor, and they become negatively electrised, and therefore repel each other.

Keeping the tube in the same place with one hand, attempt to touch the threads with the finger of the other hand, and they will recede from the finger.

Because the finger being plunged into the atmosphere of the glass tube, as well as the threads, part of its natural quantity is driven back through the hand and body, by that atmosphere, and the finger becomes, as well as the threads, negatively electrised, and so repels, and is repelled by them. To confirm this, hold a slender light lock of cotton, two or three inches long, near a prime conductor, that is electrified by a glass globe or tube. You will see the cotton stretch itself out towards the prime conductor. Attempt to touch it with the finger of the other hand, and it will be repelled by the finger. Approach it with a positively charged wire of a bottle, and it will fly to the wire. Bring it near a negatively charged wire of a bottle, it will recede from that wire in the same manner that it did from the finger; which demonstrates the finger to be negatively electrised, as well as the lock of cotton so situated.

184. TO JOHN LINING, AT CHARLESTON, SOUTH CAROLINA[1]

Philadelphia, March 18, 1755.

SIR,

I send you enclosed a paper containing some new experiments I have made, in pursuance of those by Mr *Canton*, that are printed with my last letters. I hope these, with my explanation of them, will afford you some entertainment.[2]

In answer to your several enquiries. The tubes and globes we use here, are chiefly made here. The glass has a greenish cast, but is clear and hard, and, I think, better for electrical experiments than the white glass of *London*, which is not so hard. There are certainly great differences in glass. A white globe I had made here some years since, would never, by any means, be excited. Two of my friends tried it, as well as myself, without success. At length, putting it on an electric stand, a chain from the prime conductor being in contact with it, I found it had the properties of a non-electric; for I could draw sparks from any part of it, though it was very clean and dry.

All I know of *Domien* is, that by his own account he was a native of *Transylvania*, of *Tartar* descent, but a priest of the *Greek* Church; he spoke and wrote *Latin* very readily and correctly. He set out from his own country with an intention of going round the world, as much as possible by land. He travelled through *Germany*, *France*, and *Holland*, to *England*. Resided some time at *Oxford*. From *England* he came to *Maryland;* thence went to *New-England;* returned by land to *Philadelphia;* and from hence travelled through *Maryland*, *Virginia*, and *North Carolina* to you. He thought it might be of service to him, in his travels, to know something of Electricity. I taught him the use of the tube; how to charge the *Leyden* phial, and some other experiments. He wrote to me from *Charles-Town*, that he had lived eight hundred miles upon Electricity; it had been meat, drink, and clothing to him. His last letter to me was, I think, from *Jamaica*, desiring me to send the tubes you mention, to meet him at the *Havanah*, from whence he expected to get a passage to *La Vera Cruz;* designed travelling over land through *Mexico* to *Acapulco;* thence to get a passage to *Manilla*, and so through *China*, *India*, *Persia*, and *Turkey*, home to his own country; proposing to support himself chiefly by Electricity. A strange project! But he was, as you observe, a very singular character. I was sorry the tubes did not get to the *Havanah* in time for him: If they are still in being, please to send for them, and accept of them. What became of him afterwards, I have never heard. He promised to write to me as often as he could on his journey, and as soon as he should get home after finishing his tour. It is now seven years since he was here. If he is still in *New Spain*, as you imagine from that loose report, I suppose it must be that they confine him there, and prevent his writing: but I think it more likely that he may be dead.

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[1] From "Experiments and Observations on Electricity," London, 1769, p. 319. Dr. John Lining (1708–1760) practised medicine in Charleston, and wrote a "History of Yellow Fever" (Charleston, 1753). — ED.

[2] See p. 247, for the paper here mentioned. — ED.

The questions you ask about the pores of glass, I cannot answer otherwise, than that I know nothing of their nature; and suppositions, however ingenious, are often mere mistakes. My hypothesis, that they were smaller near the middle of the glass, too small to admit the passage of Electricity, which could pass through the surface till it came near the middle, was certainly wrong: For soon after I had written that letter, I did, in order to *confirm* the hypothesis, (which indeed I ought to have done before I wrote it,) make an experiment. I ground away five-sixths of the thickness of the glass, from the side of one of my phials, expecting that the supposed denser part being so removed, the electric fluid might come through the remainder of the glass, which I had imagined more open; but I found myself mistaken. The bottle charged as well after the grinding as before. I am now, as much as ever, at a loss to know how or where the quantity of electric fluid, on the positive side of the glass, is disposed of.

As to the difference of conductors, there is not only this, that some will conduct Electricity in small quantities, and yet do not conduct it fast enough to produce the shock; but even among those that will conduct a shock, there are some that do it better than others. Mr. *Kinnersley* has found, by a very good experiment, that when the charge of a bottle hath an opportunity of passing two ways, *i.e.*, strait through a trough of water ten feet long, and six inches square, or round about through twenty feet of wire, it passes through the wire, and not through the water, though that is the shortest course; the wire being the better conductor. When the wire is taken away, it passes through the water, as may be felt by a hand plunged in the water; but it cannot be felt in the water when the wire is used at the same time. Thus, though a small vial containing water will give a smart shock, one containing the same quantity of mercury will give one much stronger, the mercury being the better conductor; while one containing oil only, will scarce give any shock at all.

Your question, how I came first to think of proposing the experiment of drawing down the lightning, in order to ascertain its sameness with the electric fluid, I cannot answer better than by giving you an extract from the minutes I used to keep of the experiments I made, with memorandums of such as I purposed to make, the reasons for making them, and the observations that arose upon them, from which minutes my letters were afterwards drawn. By this extract you will see, that the thought was not so much "an out-of-the-way one," but that it might have occurred to any electrician.

"*November* 7, 1749. Electrical fluid agrees with lightning in these particulars. 1. Giving light. 2. Colour of the light. 3. Crooked direction. 4. Swift motion. 5. Being conducted by metals. 6. Crack or noise in exploding. 7. Subsisting in water or ice. 8. Rending bodies it passes through. 9. Destroying animals. 10. Melting metals. 11. Firing inflammable substances. 12. Sulphureous smell. The electric fluid is attracted by points. We do not know whether this property is in lightning. But since they agree in all particulars wherein we can already compare them, is it not probable they agree likewise in this? Let the experiment be made."

I wish I could give you any satisfaction in the article of clouds. I am still at a loss about the manner in which they become charged with Electricity; no hypothesis I have yet formed perfectly satisfying me. Some time since, I heated very hot a brass plate, two feet square, and placed it on an electric stand. From the plate a wire extended horizontally four or five feet, and, at the end of it, hung, by linnen threads, a pair of cork balls. I then repeatedly sprinkled water over the plate, that it might be raised from it in vapour, hoping that if the vapour either carried off the electricity of the plate, or left behind it that of the water, (one of which I supposed it must do, if, like the clouds, it became electrised itself, either positively or negatively) I should perceive and determine it by the separation of the balls, and by finding whether they were positive or negative; but no alteration was made at all, nor could I perceive that the steam was itself electrised, though I have still some suspicion that the steam was not fully examined, and I think the experiment should be repeated. Whether the first state of electrised clouds is positive or negative, if I could find the cause of that, I should be at no loss about the other, for either is easily deduced from the other, as one state is easily produced by the other. A strongly positive cloud may drive out of a neighbouring cloud much of its natural quantity of the electric fluid, and, passing by it, leave it in a negative state. In the same way, a strongly negative cloud may occasion a neighbouring cloud to draw into itself from others an additional quantity, and, passing by it, leave it in a positive state. How these effects may be produced, you will easily conceive, on perusing and considering the experiments in the enclosed paper: And from them too it appears probable, that every change from positive to negative, and from negative to positive, that, during a thunder gust, we see in the cork-balls annexed to the apparatus, is not owing to the presence of clouds in the same state, but often to the absence of positive or negative clouds, that, having just passed, leave the rod in the opposite state.

The knocking down of the six men was performed with two of my large jarrs not fully charged. I laid one end of my discharging rod upon the head of the first; he laid his hand on the head of the second; the second his hand on the head of the third, and so to the last, who held, in his hand, the chain that was connected with the outside of the jarrs. When they were thus placed, I applied the other end of my rod to the prime-conductor, and they all dropt together. When they got up, they all declared they had not felt any stroke, and wondered how they came to fall; nor did any of them either hear the crack, or see the light of it. You suppose it a dangerous experiment; but I had once suffered the same myself, receiving, by accident, an equal stroke through my head, that struck me down, without hurting me: And I had seen a young woman, that was about to be electrified through the feet, (for some indisposition) receive a greater charge through the head, by inadvertently stooping forward to look at the placing of her feet, till her forehead (as she was very tall) came too near my prime-conductor: She dropt, but instantly got up again, complaining of nothing. A person so struck, sinks down doubled, or folded together as it were, the joints losing their strength and stiffness at once, so that he drops on the spot where he stood, instantly, and there is no previous staggering, nor does he ever fall lengthwise. Too great a charge might, indeed, kill a man, but I have not yet seen any hurt done by it. It would certainly, as you observe, be the easiest of all deaths.

The experiment you have heard so imperfect an account of, is merely this. — I electrified a silver pint cann, on an electric stand, and then lowered into it a cork ball, of about an inch diameter, hanging by a silk string, till the cork touched the bottom of the cann. The cork was not attracted to the inside of the cann, as it would have been to the outside, and though it touched the bottom, yet, when drawn out, it was not found to be electrified by that touch, as it would have been by touching the outside. The fact is singular. You require the reason; I do not know it. Perhaps you may discover it, and then you will be so good as to communicate it to me.[1] I find a frank acknowledgement of one's ignorance is not only the easiest way to get rid of a difficulty, but the likeliest way to obtain information, and therefore I practise it: I think it an honest policy. Those who affect to be thought to know every thing, and so undertake to explain every thing, often remain long ignorant of many things that others could and would instruct them in, if they appeared less conceited.

The treatment your friend has met with is so common, that no man who knows what the world is, and ever has been, should expect to escape it. There are every where a number of people, who, being totally destitute of any inventive faculty themselves, do not readily conceive that others may possess it: They think of inventions as of miracles; there might be such formerly, but they are ceased. With these, every one who offers a new invention is deem'd a pretender:

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[1] Mr. *F.* has since thought, that, possibly, the mutual repulsion of the inner opposite sides of the electrified cann, may prevent the accumulating an electric atmosphere upon them, and occasion it to stand chiefly on the outside. But recommends it to the farther examination of the curious. *F.*

He had it from some other country, or from some book: A man of *their own acquaintance;* one who has no more sense than themselves, could not possibly, in their opinion, have been the inventer of any thing. They are confirmed, too, in these sentiments, by frequent instances of pretensions to invention, which vanity is daily producing. That vanity too, though an incitement to invention, is, at the same time, the pest of inventors. Jealousy and Envy deny the merit or the novelty of your invention; but Vanity, when the novelty and merit are established, claims it for its own. The smaller your invention is, the more mortification you receive in having the credit of it disputed with you by a rival, whom the jealousy and envy of others are ready to support against you, at least so far as to make the point doubtful. It is not in itself of importance enough for a dispute; no one would think your proofs and reasons worth their attention: And yet if you do not dispute the point, and demonstrate your right, you not only lose the credit of being in that instance *ingenious*, but you suffer the disgrace of not being *ingenuous;* not only of being a plagiary, but of being a plagiary for trifles. Had the invention been greater it would have disgrac'd you less; for men have not so contemptible an idea of him that robs for gold on the highway, as of him that can pick pockets for half-pence and farthings. Thus, through Envy, Jealousy, and the Vanity of competitors for Fame, the origin of many of the most extraordinary inventions, though produced within but a few centuries past, is involved in doubt and uncertainty. We scarce know to whom we are indebted for the *compass*, and for *spectacles*, nor have even *paper* and *printing*, that record every thing else, been able to preserve with certainty the name and reputation of their inventors. One would not, therefore, of all faculties or qualities of the mind, wish, for a friend, or a child, that he should have that of invention. For his attempts to benefit mankind in that way, however well imagined, if they do not succeed, expose him, though very unjustly, to general ridicule and contempt; and, if they do succeed, to envy, robbery, and abuse.

I am, &c.

B. F[RANKLIN].

185. TO JAMES WRIGHT[1] (P. C.)

Philada, June 26, 1755.

DEAR FRIEND:

I am glad to learn that the Flour is mostly if not all got up to Conegocheeg, & that you have so good a Prospect of getting Waggons to forward it to Wills's Creek.

The Governor has sent down the Bill and proposes to pass it with about 30 Amendments, of which one is that the Commissioners named in the Act to dispose of the 5000 £ for Roads, Indian Expenses &c shall lay out none of the money without his Consent. Another that the 10000 £ given to General Braddock with the 5000 £ be sunk in 5 years. Another that the money arising from the Excise during the remaining 5 years be not disposed of without the Governor's Consent. Another that the Treasurer S. Preston Moore, be named in the Bill to continue till another be appointed by Act of Assembly &c &c &c. The House adhere to their Bill & will send it up again tho' without any

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[1] The original letter is owned by Mr. J. Ewing Mifflin, of Philadelphia. Franklin's draft of the letter is in the collection of Mr. Adrian H. Joline, of New York. See letter to Susanna Wright, July 11, 1752. — ED.

Hopes of its Passing. They are pleased however to find that the Mask is now forced off and that not one word is mentioned of King's Instructions which have long been made a Pretense to harass us, but the Governor is willing for a Bill to make Paper money without a reclaiming Clause &c provided we comply with the Proprietary Instructions, and agree not to chuse our own Officers nor make use of our own money without his Consent — We should not have had this Clearing up of Things, if we had not sent him the original Royal Approbation of Gov. Thomas's Act, which deprived him of all the old Subterfuges — My Love to all the Good Folks on both sides the River.

I am with sincere Esteem & Affection Dr. Sir

Your most obedient humble Servant

B. Franklin.

I shall be glad to hear of Johnny's success.

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186. TO MISS SUSANNA WRIGHT[1] (P. C.)

Monday morning.

Dear Mm:

I thought from the first that your proposal of calling the several Townships together was very judicious. I was only at a Loss how to get them called by some Appearance of Authority. On the Road from your House hither, I considered that at the Court of Oyer & Terminer here, there would probably be Constables from most of the Townships and if the Chief Justice could be prevailed on to recommend it from the Bench, that the Constables should immediately call the Inhabitants of their respective Townships together, perhaps the business might by that means be effectually done. I know not whether he will think a Person in his Station, can in Court regularly intermeddle in such Affairs but I shall endeavour to persuade him to it, as strict Forms, ought, in my opinion be disregarded in Cases of Necessity —

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[1] From the collection of Mr. J. Ewing Mifflin. The letter is undated, but it must have been written in June, 1755. — Ed.

The Dutche Advertisement[1] is composing and will be printed in two or three Hours, as Mr. Dunlap tells me. I have taken the liberty of detaining your Servant so long, after inquiring & being informed by him that his immediate Return was not absolutely necessary. I am with the greatest Esteem and Respect Mm

Your most humb'l Serv't

B. FRANKLIN.

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187. TO PETER COLLINSON[2] (P. C.)

Philad^a June 26. 1755

DEAR FRIEND

Mr. Bartram brings a Box to my House which has a little Vacancy in it, so I put in my Philosophical Pacquet, which I long since intended to send you, but one thing or other has prevented. I would not have any Part of it printed, unless you should think that printing the Papers relating to Whirlwinds and Water Spouts together with a Collection of all Accounts of Spouts and Whirlwinds that have been hitherto publish'd, might excite the Curiosity of Naturalists and the Attention of Shipmasters and other Travellers, so as to occasion more accurate Observations of the Phænomena and produce more particular Accounts, tending to a thorough Explanation. If you should be of that Opinion, I have no Objection to the Making that Use of the Papers on that Subject; but the rest are only for your private Amusement, and when perused I must request you to return them.

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[1] Advertisement for wagons for Braddock's army. — ED.

[2] From the private collection of Mr. J. Pierpont Morgan. — ED.

I also send you a few sheets of Paper made of the Asbestos. I am sorry it is so tender. I made some formerly that was much stronger. Please to present a Sheet of it to your noble President,[1] if he will be so good as to accept such a Trifle.

I enclose you a second Bill for £25 Sterling on Account of the Library Company.

I must desire you to send us Johnson's Dictionary, and one for the Academy. The old Accounts of the first Settlem^{t} of the Colonies are very Curious, and very acceptable to the Library Company, who direct me to return you their hearty Thanks for your kindness in sparing them to the Library. The Box not being full, I have put in a few more of our Candles which I recommend for your particular Use when you have Occasion to read or write by Night; they give a whiter Flame than that of an other kind of Candle, and the Light is more like Daylight than any other Light I know; besides they need little or no Snuffing, and grease nothing. There is still a little Vacancy at the End of the Box, so I'll put in a few Cakes of American Soap made of Myrtle Wax, said to be the best Soap in the World for Shaving or Washing fine Linnens etc. Mrs. Franklin requests your Daughter would be so good as to accept 3 or 4 Cakes of it, to wash your Grandson's finest Things with.

In your Gentleman's Magazine for February 1755 I see a Letter from R. Brooke[1] of Maryland mentioning an American Animal which he says he believes had not been seen or described in Europe. I imagine it to be the same that in New England is called a *Woodchuck* or Monack. When I was on my Journey in that Country last Winter one of them was killed in the Garden of an old Inn I put up at. Having never seen one of them before I immediately took some Notes towards a Description of it, to show our Friend Bartram, who tells me it is what we here call a *Ground hog*. I send you my Notes enclos'd.

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[1] Sir John Pringle, elected November 30, 1752. — Ed.

I am endeavouring to Answer Dr. Parsons's Request relating to the Indian Names of the Cardinal Numbers.[2] Please to give the enclos'd concerning an extraordinary Worm bred in a Woman's Liver to Dr. Clephane.[3]

I hope you have got the Remainder of Douglas. I know I have sent it but forget by whom.

I have before me your Account dated May 2, 1754; in it I am charged with Dr. Blair's Chronology and Binding £2. 9. 0. As that Book was for the Academy, please to charge the Trustees of the Academy with it, and take it out of my Account, if there is, as I suppose there is, a Ballance of theirs in your Hands; if not, let it stand in my Acc^{t} and I will charge them.

I send you the Hospital Book, and our late Votes. In yours of Aug. 4 you express your Concern that such trifling

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[1] From R. Brooke, M.D., to J. Bevis, M.D., October 15, 1754, concerning the ground hog, called by the Indians Aquaquisquis. — Ed.

[2] James Parsons (1705–1770), F.R.S. and F.S.A., author of "Remains of Japhet; being Historical Enquiries into the Affinity and Origin of the European Languages," London, 1767. — Ed.

[3] Dr. John Clephane (died 1758), physician to St. George's Hospital. — Ed.

Punctilios in our Publick Affairs should obstruct necessary Measures. You will see more of the same Trifling in these Votes on both sides. I am heartily sick of our present Situation; I like neither the Governor's Conduct, nor the Assembly's; and having some Share in the Confidence of both, I have endeavour'd to reconcile 'em but in vain, and between 'em they make me very uneasy. I was chosen last Year in my Absence and was not at the Winter Sitting when the House sent home that Address to the King, which I am afraid was both ill-judg'd and ill-tim'd. If my being able now and then to influence a good Measure did not keep up my Spirits I should be ready to swear never to serve again as an Assembly Man, since both Sides expect more from me than they ought, and blame me sometimes for not doing what I am not able to do, as well as for not preventing what was not in my Power to prevent. The Assembly ride restive; and the Governor tho' he spurs with both heels, at the same time reins-in with both hands, so that the Publick Business can never move forward, and he remains like St. George on the Sign, Always a Horseback and never going on. Did you never hear this old Catch?

Their was a mad Man — He had a mad Wife,
And three mad Sons beside;
And they all got upon a mad Horse
And madly they did ride.

'Tis a Compendium of our Proceedings and may save you the Trouble of reading them.

There is one Mr. Hazard,[1] who, happening to see last Fall a Paper of mine on the Means of settling a new Colony westward of Pensilvania (drawn up to divert the Connecticut Emigrants from their design of Invading this Province and so induce them to go where they would be less injurious and more useful) and picking out something farther from me in Conversation, has publish'd a Scheme for that purpose in my Absence, wherein he has added some Things and left out others, and now (like your Fire-hearth Man) calls it his own Project. He aims at great Matters for himself, hoping to become a Proprietor like Mr. Penn etc, and has got, they say, a great Number of Settlers engag'd to go with him, if he can get a grant of the Land from the Crown. It is certain that People enough may be had, to make a strong English Settlement or two in those Parts. I wish to see it done, and am almost indifferent how or by whom it is done; yet I think this Man not the fittest in the World to conduct such an Affair. I hear he intends soon for England.

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[1] Samuel Hazard (1714–1758), a merchant of Philadelphia. — ED.

Mr. Bird,[1] I find, is of Opinion that it is impracticable to mend my broken Thermometer. The Tube was whole, and only the Ball broke. I got a thin Copper Ball nicely made, and fix'd to the Tube, with a Screw Plug entering the Ball at the Bottom, by means of which Screw going into the Cavity of the Ball, more or less, among the Mercury, I hoped to lessen or enlarge the Cavity at Pleasure, and by that Means find the true Quantity of Mercury it ought to contain, to rise and fall exactly with the others in the same Temperature of Air etc.

I only tell you this, that you and Mr. Bird may divert yourselves with laughing at me. I was much pleas'd with my Project, but I find Difficulties in the Execution which I did not foresee tho' they must occur to him immediately.

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[1] John Bird (1709–1776), mechanical instrument maker, and coadjutor of Bradley. — ED.

Our Academy goes on very well. Our Friend Smith will be very serviceable there. We have drawn our first Lottery, and are engag'd in a second, as you will see by our Papers. Mr. Smith will write fully about the Charity Schools, which I think cannot fail of Success, if suitable Funds are provided.

I purpose to write to the ingenious Mr. Canton on his very curious Experiment annext to my last Paper. I am oblig'd to him for the Kindness you mention. It is a great Pleasure to me that his Observations evince the various State of the Clouds (as to positive and negative Electricity) as well as mine. I was afraid of being thought out of my Senses.

I hope the Plan of Union which you express your Approbation of, or something like it, will take Place and be establish'd by the King and Parliament. 'Till it is done never expect to see an American War carried on as it ought to be, nor Indian Affairs properly managed.

I shall be glad to see Dr. Mitchel's Map and will endeavour to sell some for him if he sends them.

The Heirs of our Friend Logan have honourably settled the Library agreable to their Father's Intention. I am one of the Trustees. The Books are now plac'd in the Library House he built and gave for that purpose. They deserve Praise for their Conduct; for some Children would have taken Advantage of the Settlement not being perfected by the Father, and refus'd to comply with it.

The Library Company will be glad to have Murray's Treatise of Ship-Building. We have the three first Vol^{s} of Shackford. The new Catalogue is now in the Press which I will send you as soon as finish'd. I do not remember that you have sent any of the Reviews, but will enquire.

I send you ten of my Fireplace Pieces, as you desire, which please to accept: and when Mr. Harris's Improvements come out please to communicate them to me.

I saw our Friend Elliot[1] in my late New England Journey. He is very well, and still studying Improvements in Husbandry.

You are undoubtedly right in your Opinion that Niagara should be secur'd. Measures are now taking for that purpose of which no doubt you have already had Advices.

I will some Day muster up all the Papers and Letters I have relating to Swain's fruitless Expeditions and send them to you.

I like much your Proposal of setting some Person to write the History of this Colony; but a suitable Hand who has Leisure is hard to find.

Thus, my dear Friend, I have run thro' all your late Letters, answering every particular that requires an Answer. And now have only to request you would send my Wife Sattin sufficient for a Gown, somewhat darker than the enclos'd Pattern; which concludes this long Epistle from

Your affectionate Friend

B. FRANKLIN

Capt. Shirley I hear is going this Minute, so am prevented writing to my other London Friends, but hope to do it per Capt. Young who sails in a few Days.

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[1] Jared Eliot. — ED.

188. TO M. DALIBARD, AT PARIS, ENCLOSED IN A LETTER TO PETER COLLINSON[1]

Philadelphia, June 29, 1755.

[SIR,]

You desire my opinion of *Père Beccaria's Italian* book.[2] I have read it with much pleasure, and think it one of the best pieces on the subject that I have seen in any language. Yet as to the article of water-spouts, I am not at present of his sentiments; though I must own with you, that he has handled it very ingeniously. Mr *Collinson* has my opinon of whirlwinds and water-spouts at large, written some time since. I know not whether they will be published; if not, I will get them transcribed for your perusal. It does not appear to me that *Père Beccaria* doubts of the *absolute impermeability of glass* in the sense I meant it; for the instances he gives of holes made through glass by the electric stroke, are such as we have all experienced, and only shew, that the electric fluid could not pass without making a hole. In the same manner we say, glass is impermeable to water, and yet a stream from a fire-engine will force through the strongest panes of a window. As to the effect of points in drawing the electric matter from the clouds, and thereby securing buildings, *&c.* which, you say, he seems to doubt, I must own I think he only speaks modestly and judiciously.

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[1] From "Experiments and Observations on Electricity," London, 1769, p. 161. This letter was read at the Royal Society, December 18, 1755. — ED.

[2] This work is written conformable to Mr *Franklin's* theory, upon artificial and natural Electricity, which compose the two parts of it. It was printed in *Italian*, at *Turin*, in 4to. 1753; between the two parts is a letter to the Abbé *Nollet*, in defence of Mr *Franklin's* system. — J. B[EVIS].

I find I have been but partly understood in that matter. I have mentioned it in several of my letters, and except once, always in the *alternative, viz.* that pointed rods erected on buildings, and communicating with the moist earth, would either *prevent* a stroke, *or*, if not prevented, would *conduct* it, so as that the building should suffer no damage. Yet whenever my opinion is examined in *Europe*, nothing is considered but the probability of those rods *preventing* a stroke or explosion, which is only a *part* of the use I proposed for them; and the other part, their conducting a stroke, which they may happen not to prevent, seems to be totally forgotten, though of equal importance and advantage.

I thank you for communicating M. *de Buffon's* relation of the effect of lightning at *Dijon*, on the 7th of *June* last. In return, give me leave to relate an instance I lately saw of the same kind. Being in the town of *Newbury* in *New-England*, in *November* last, I was shewn the effect of lightning on their church, which had been struck a few months before. The steeple was a square tower of wood, reaching seventy feet up from the ground to the place where the bell hung, over which rose a taper spire, of wood likewise, reaching seventy feet higher, to the vane of the weather-cock. Near the bell was fixed an iron hammer to strike the hours; and from the tail of the hammer a wire went down through a small gimlet-hole in the floor that the bell stood upon, and through a second floor in like manner; then horizontally under and near the plaistered cieling of that second floor, till it came near a plaistered wall; then down by the side of that wall to a clock, which stood about twenty feet below the bell. The wire was not bigger than a common knitting needle. The spire was split all to pieces by the lightning, and the parts flung in all directions over the square in which the church stood, so that nothing remained above the bell.

The lightning passed between the hammer and the clock in the above-mentioned wire, without hurting either of the floors, or having any effect upon them, (except making the gimlet-holes, through which the wire passed, a little bigger,) and without hurting the plaistered wall, or any part of the building, so far as the aforesaid wire and the pendulum wire of the clock extended; which latter wire was about the thickness of a goose-quill. From the end of the pendulum, down quite to the ground, the building was exceedingly rent and damaged, and some stones in the foundation-wall torn out, and thrown to the distance of twenty or thirty feet. No part of the afore-mentioned long small wire, between the clock and the hammer, could be found, except about two inches that hung to the tail of the hammer, and about as much that was fastened to the clock; the rest being exploded, and its particles dissipated in smoke and air, as gunpowder is by common fire, and had only left a black smutty track on the plaistering, three or four inches broad, darkest in the middle, and fainter towards the edges, all along the cieling, under which it passed, and down the wall. These were the effects and appearances; on which I would only make the few following remarks, *viz.*

1. That lightning, in its passage through a building, will leave wood to pass as far as it can in metal, and not enter the wood again till the conductor of metal ceases.

And the same I have observed in other instances, as to walls of brick or stone.

2. The quantity of lightning that passed through this steeple must have been very great, by its effects on the lofty

spire above the bell, and on the square tower, all below the end of the clock pendulum.

3. Great as this quantity was, it was conducted by a small wire and a clock pendulum, without the least damage to the building so far as they extended.

4. The pendulum rod, being of a sufficient thickness, conducted the lightning without damage to itself; but the small wire was utterly destroyed.

5. Though the small wire was itself destroyed, yet it had conducted the lightning with safety to the building.

6. And from the whole it seems probable, that if even such a small wire had been extended from the spindle of the vane to the earth, before the storm, no damage would have been done to the steeple by that stroke of lightning, though the wire itself had been destroyed.

[B. FRANKLIN.]

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189. TO JAMES WRIGHT[1] (P. C.)

Philada, July 3, 1755.

DEAR FRIEND:

Before this reaches you you will have heard that the House is adjourned. A Bill to strike £10,000 Exchange Money is pass'd & nothing else done. I spoke several times to the Speaker and Committee about sending you some Money by the Return of the Members; but Mr. McConaughy slipt away without Leave and so without their knowledge; and afterwards the business slipt their Memory. I have now communicated your last Letter, and 200£ is put into my Hand to send you. My wife goes tomorrow to Lan-

[1] From the original in the possession of Mr. J. Ewing Mifflin. — ED.

caster & will carry it so far. Let me know how much more you will want & it shall be sent by next Post.

The Speaker has not return'd me your Letter so I may possibly forget some Particulars I ought to answer. I am sorry to hear of the Mischief on the Frontier, but we must expect more of that kind. We have just heard that the French Fleet with 4000 Land Forces are block'd up in Louisburg by Adm. Boscawen, which I hope may prove true. My love to your good Family in which my Wife joins, as well as to yourself, with

Your affectionate Friend
and Servant
B. FRANKLIN.

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190. TO PETER COLLINSON[1]

Philadelphia, Aug. 25, 1755.

DEAR SIR, —

As you have my former papers on Whirlwinds, &c., I now send you an account of one which I had lately an opportunity of seeing and examining myself.

Being in *Maryland*, riding with Colonel *Tasker*, and some other gentlemen to his country-seat, where I and my son were entertained by that amiable and worthy man with great hospitality and kindness, we saw in the vale below us, a small whirlwind beginning in the road, and shewing itself by the dust it raised and contained. It appeared in the form of a sugar-loaf, spinning on its point, moving up the hill towards us, and enlarging as it came forward. When it passed by us, its smaller part near the ground, appeared no bigger than a common barrel, but widening upwards, it seemed, at 40 or 50 feet high, to be 20 or 30 feet in diameter. The rest of the company stood looking after it, but my curiosity being stronger, I followed it, riding close by its side, and observed its licking up, in its progress, all the dust that was under its smaller part. As it is a common opinion that a shot, fired through a water-spout, will break it, I tried to break this little whirlwind, by striking my whip frequently through it, but without any effect. Soon after, it quitted the road and took into the woods, growing every moment larger and stronger, raising, instead of dust, the old dry leaves with which the ground was thick covered, and making a great noise with them and the branches of the trees, bending some tall trees round in a circle swiftly and very surprizingly, though the progressive motion of the whirl was not so swift but that a man on foot might have kept pace with it; but the circular motion was amazingly rapid. By the leaves it was now filled with, I could plainly perceive that the current of air they were driven by, moved upwards in a spiral line; and when I saw the trunks and bodies of large trees invelop'd in the passing whirl, which continued intire after it had left them I no longer wondered that my whip had no effect on it in its smaller state. I accompanied it about three quarters of a mile, till some limbs of dead trees, broken off by the whirl, flying about and falling near me, made me more apprehensive of danger; and then I stopped, looking at the top of it as it went on, which was visible, by means of the leaves contained in it, for a very great height above the trees. Many of the leaves, as they got loose from the upper and widest part, were scattered in the wind; but so great was their height in the air, that they appeared no bigger than flies. My son, who was by this time come up with me, followed the whirlwind till it left the woods, and crossed an old tobacco-field, where, finding neither dust nor leaves to take up, it gradually became invisible below as it went away over that field. The course of the general wind then blowing was along with us as we travelled, and the progressive motion of the whirlwind was in a direction nearly opposite, though it did not keep a strait line, nor was its progressive motion uniform, it making little sallies on either hand as it went, proceeding sometimes faster and sometimes slower, and seeming sometimes for a few seconds almost stationary, then starting forward pretty fast again. When we rejoined the company, they were admiring the vast height of the leaves now brought by the common wind, over our heads. These leaves accompanied us as we travelled, some falling now and then round about us, and some not reaching the ground till we had gone near three miles from the place where we first saw the whirlwind begin. Upon my asking Colonel *Tasker* if such whirlwinds were common in *Maryland*, he answered pleasantly, "No, not at all common; but we got this on purpose to treat Mr. Franklin." And a very high treat it was, to

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[1] From "Experiments and Observations on Electricity," London, 1769, p. 356.

Dear Sir,

Your affectionate friend and humble servant,

B. F[RANKLIN.]

191. TO PETER COLLINSON[1] (P. C.)

Philad^{a} Aug. 27. 1755.

DEAR FRIEND,

I received your Favours of May 28 and June 1. I believe I have already wrote you, that our Friend Smith is not thought here to be the Author of the Pamphlet you mention.[2] 'Tis generally suppos'd to be the Governor's (with some Help from one or two others) as his Messages are fill'd with the same Sentiments and almost the same Expressions. He is, I think, the rashest and most indiscreet Governor that I have known, and will do more Mischief to the Proprietaries Interest than Good and make them more Enemies than Friends. He has 1000 little Arts to provoke and irritate the People, but none to gain their good Will, Esteem, or Confidence; without which Publick Business must go on heavily or not at all. We are all in Flames, as you will see by the Papers. I have wrote to our Agent, Mr. Partridge, a short but I believe a clear Acc^{t} of our late Bill for giving £50,000 refus'd by the Governor because the Proprietary Estate was thereby to be taxed with others. He will show it to you if you desire it, as I have not now time to repeat it. These Obstructions of the general Interest from particular Disputes in the Colonies show more and more the Necessity of the projected UNION which I hope will be compleated soon; for depend on it no American War will ever be well carried on without it.

I wrote you, via New York, a full Account of our shameful

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[1] From the private collection of Mr. J. Pierpont Morgan.

[2] See Introduction, Vol. I, p. 160. — ED.

Defeat on the Ohio. The General presum'd too much, and was too secure. This the Event proves, but it was my Opinion from the time I saw him and convers'd with him.

I send you herewith one of Evans's[1] Maps which please to accept. There is one likewise for our Friend Jackson to whom I cannot now write.

I enclose a few Experiments made in pursuance of the very ingenious Mr. Canton's Discoveries. Please to communicate them to him with my Respects.

I do not find that our Assembly have any Inclination to answer the Brief State. They think it below them. Perhaps they slight it too much. The Design was to get Quakers out of the Assembly, on this Principle, or at least on this Pretence, *That they could not or would not do the Duty of Assembly Men in defending the Country.* Great Pains was taken to this Purpose at our last Election, when I was absent in New England but in vain. If the End was simply to get the Country defended by Grants of Money the Quakers have now shown that they can give and dispose of Money for that purpose as freely as any People. If this does not give Satisfaction, the Pique against them must seem to be personal and private, and not formed on Views for the Publick Good. — I know the Quakers now think it their Duty, when chosen, to consider themselves as Representatives of the *Whole People*, and not of their own Sect only; they consider the Public Money as raised from and belonging to the *whole Publick*, and not to their Sect only, and therefore, tho' they can neither bear Arms themselves nor compel others to do it, yet very lately when our Frontier Inhabitants who are chiefly Presbyterians or Churchmen, thought themselves in Danger, and the Poor among them were unable to provide Arms, and petitioned the House, a Sum was voted for these purposes, and put into the Hands of a Committee to procure and supply them. I have accordingly purchas'd and sent up a considerable Quantity; with the Governor's Approbation as to the Disposition; for as he is Captain General we think it our Duty not to arm the People without his Consent, tho' we are otherwise at Variance with him.

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[1] Lewis Evans, Surveyor. — Ed.

To me, it seems that if Quakerism (as to the matter of Defence) be excluded the House, there is no Necessity to exclude Quakers, who in other Respects make good and useful Members. — I am suppos'd to have had a principal share in prevailing with the House to make their late generous Grants to Braddock and Shirley, and the Bill for giving £50,000, and the Governor with his few Friends are angry with me for disappointing them by that Means of a fresh Accusation against the Quakers. A Number of Falshoods are now privately propagated to blast my Character; of which I shall take no Notice till they grow bold enough to show their Faces in publick. Those who caress'd me a few Months since, are now endeavouring to defame me everywhere by every base Act.

But it happens that I have the Means of my full Defence and their effectual Defeat in my Power and shall use those Means in due time. Let me know if you learn that any of their Slanders reach England. I abhor these Altercations and if I did not love the Country and the People would remove immediately into a more quiet Government, Connecticut, where I am also happy enough to have many Friends.

Have you receiv'd my large Philosophical Pacquet? I do not ask whether you have read it; for it was so big, that

I ought not in conscience to expect you will read it in less than a 12 month; when you may possibly have such another.

Please to send the Magazines wanted in the Library as per the enclos'd List. We are about to bind them up and should have our Sets compleat. Send us also Johnson's New English Dictionary. I enclose you a Bill for £75 Sterling on Acc^{t} of the Academy. I shall send you per next Ship, with a List of Philosophical Implements to compleat our Apparatus for Natural Philosophy: In the meantime please to bespeak for us, one of Mr. Smeaton's new Air Pumps, described in the late Transactions.

Adieu, my dear Friend, and believe me to be, with great Esteem and Affection,

Your humble and most obedient Servant
B. FRANKLIN.

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192. TO JARED ELIOT (Y.)

Philad^{a}, Aug 31, 1755.

DEAR FRIEND,

I have been employ'd almost all this summer in the service of an unfortunate Army, and other publick Affairs, that have brought me greatly in Arrears with my Correspondents. I have lost the Pleasure of conversing with them, and I have lost my Labour. I wish these were the only Losses of the Year; but we have lost a number of brave Men, and all our credit with the Indians. I fear these Losses may soon be productive of more and greater.

I have had no Opportunity of making the enquiry you desired relating to Leonard. Somerset County in Maryland is 150 miles from hence, and out of the common road of

Travellers or the Post; nor have I any Correspondent or Acquaintance there. But now, while I am writing, I recollect a Friend I have at Newtown within 50 miles of Somerset, who has a very general Knowledge of those Parts and of the People, as he practises the Law in all the Counties on the Eastern Shore of Maryland. I will immediately write to him about it.

I am sorry your Newspapers miscarry. If your Riders are not more careful, I must order them to be changed. The Mitchel, who made the map, is our Dr. Mitchel. I send you one of Evans's new maps, which I imagine will be agreeable to you. Please to accept it. I am glad to hear your Son has acquir'd the art of making Steel. I hope it will prove profitable. Mr. Roberts is pleas'd that you so kindly accept his Fork and Rake. I suppose he will write to you; but he is a Man of much Business, and does not love Writing. I shall learn once more (for he told me once and I have forgotten it) how those Teeth are put in, and send you word; but perhaps our friend Bartram can tell you. He delivers you this, and I need not recommend him to you, for you are already acquainted with his Merit, tho' not with his Face and Person. You will have a great deal of Pleasure in one another's Conversation. I wish I could be within hearing, but that cannot be. He is upon one of his Rambles in Search of Knowledge, and intends to view both your Seacoast and back Country.

Remember me kindly to Mr. Tufts and Mr. Ruggles when you see them. My Respects to your good Lady and Family. With the greatest Esteem, I am, dear Sir, your most affectionate, humble Servant

B. FRANKLIN.

193. TO JARED ELIOT (Y.)

Philad^{a}, Sept. 1. 1755.

DEAR SIR,

I wrote to you yesterday, and now I write again. You will say, *It can't rain, but it pours;* for I not only send you *manuscript* but *living* letters. The first may be short, but the *latter* will be longer and yet more agreeable. Mr. Bartram I believe you will find to be at least twenty folio pages, large Paper well fill'd, on the Subjects of Botany, Fossils, Husbandry, and the first Creation. This Mr. Alison[1] is as many or more on Agriculture, Philosophy, your own Catholick Divinity, and various other Points of Learning equally useful and engaging. Read them both. 'Twill take you at least a Week; and then answer, by sending me two of the like kind, or by coming yourself. If you fail of this, I shall think I have overbalanc'd my epistolary Account, and that you will be in my debt as a Correspondent for at least a 12 month to come.

I remember with Pleasure the cheerful Hours I enjoy'd last Winter in your Company, and would with all my heart give any ten of the thick old Folios that stand on the Shelves before me, for a *little book* of the Stories you then told with so much Propriety and Humor. Adieu, my dear friend, and believe me ever yours affectionately, B. FRANKLIN.

P. S. The Piece of Iron Ore you mention'd in yours of April 10. never came to hand. — I forgot to mention, that the Bearer Mr Allison is Rector of our Academy and my particular Friend. He is on a Journey Northward for Health.

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[1] Francis Alison, Vice Provost of the College and Academy of Philadelphia. — ED.

194. TO MISS CATHERINE RAY

Philadelphia, Sept. 11, 1755.

Begone, business, for an hour, at least, and let me chat a little with my Katy.

I have now before me, my dear girl, three of your favours, viz. of March the 3d, March the 30th, and May the 1st. The first I received just before I set out on a long journey, and the others while I was on that journey, which held me near six weeks. Since my return, I have been in such a perpetual hurry of public affairs of various kinds, as renders it impracticable for me to keep up my private correspondences, even those that afforded me the greatest pleasure.

You ask in your last, how I do, and what I am doing, and whether everybody loves me yet, and why I make them do so.

In regard to the first, I can say, thanks to God, that I do not remember I was ever better. I still relish all the pleasures of life, that a temperate man can in reason desire, and through favour I have them all in my power. This happy situation shall continue as long as God pleases, who knows what is best for his creatures, and I hope will enable me to bear with patience and dutiful submission any change he may think fit to make that is less agreeable. As to the second question, I must confess (but don't you be jealous), that many more people love me now, than ever did before; for since I saw you I have been enabled to do some general services to the country, and to the army, for which both have thanked and praised me, and say they love me. They say so, as you used to do; and if I were to ask any favours of them, they would, perhaps, as readily refuse me; so that I find little real advantage in being beloved, but it pleases my humour.

Now it is near four months since I have been favoured with a single line from you; but I will not be angry with you, because it is my fault. I ran in debt to you three or four letters; and as I did not pay, you would not trust me any more, and you had some reason. But, believe me, I am honest; and, tho' I should never make equal returns, you shall see I will keep fair accounts. Equal returns I can never make, tho' I should write to you by every post; for the pleasure I receive from one of yours is more than you can have from two of mine. The small news, the domestic occurrences among our friends, the natural pictures you draw of persons, the sensible observations and reflections you make, and the easy, chatty manner in which you express every thing, all contribute to heighten the pleasure; and the more as they remind me of those hours and miles, that we talked away so agreeably, even in a winter journey, a wrong road, and a soaking shower.

I long to hear whether you have continued ever since in that monastery;[1] or have broke into the world again, doing pretty mischief; how the lady Wards do, and how many of them are married, or about it; what is become of Mr. B—— and Mr. L——, and what the state of your heart is at this instant? But that, perhaps, I ought not to know; and, therefore, I will not conjure, as you sometimes say I do. If I could conjure, it should be to know what was that *oddest question about me that ever was thought of*, which you tell me a lady had just sent to ask you.

I commend your prudent resolutions, in the article of granting favours to lovers. But, if I were courting you, I could not hardly approve such conduct. I should even be malicious enough to say you were too *knowing*, and tell you the old story of the Girl and the Miller. I enclose you the songs you write for, and with them your Spanish letter with a translation. I honour that honest Spaniard for loving you. It showed the goodness of his taste and judgement. But you must forget him, and bless some worthy young Englishman.

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[1] Block Island.

You have spun a long thread, five thousand and twenty-two yards. It will reach almost from Rhode Island hither. I wish I had hold of one end of it, to pull you to me. But you would break it rather than come. The cords of love and friendship are longer and stronger, and in times past have drawn me farther; even back from England to Philadelphia. I guess that some of the same kind will one day draw you out of that Island.

I was extremely pleased with the turf you sent me. The Irish people, who have seen it, say it is the right sort; but I cannot learn that we have any thing like it here. The cheeses, particularly one of them, were excellent. All our friends have tasted it, and all agree that it exceeds any English cheese they ever tasted. Mrs. Franklin was very proud, that a young lady should have so much regard for her old husband, as to send him such a present. We talk of you every time it comes to table. She is sure you are a sensible girl, and a notable housewife, and talks of bequeathing me to you as a legacy; but I ought to wish you a better, and hope she will live these hundred years; for we are grown old together, and if she has any faults, I am so used to 'em that I don't perceive 'em; as the song says,

"Some faults we have all, and so has my Joan,
But then they 're exceedingly small;
And, now I am used, they are like my own,
I scarcely can see 'em at all,
My dear friends,
I scarcely can see 'em at all."

Indeed, I begin to think she has none, as I think of you. And since she is willing I should love you, as much as you are willing to be loved by me, let us join in wishing the old lady a long life and a happy.

With her respectful compliments to you, to your good mother and sisters, present mine, though unknown; and believe me to be, dear girl, your affectionate friend and humble servant,

B. FRANKLIN.

P. S. Sally says, "Papa, my love to Miss Katy."—If it was not quite unreasonable, I should desire you to write to me every post, whether you hear from me or not. As to your spelling, don't let those laughing girls put you out of conceit with it. It is the best in the world, for every letter of it stands for something.

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195. TO JOHN HANCOCK (H.)

Philadelphia Sept^{r} 11, 1755

SIR

You may remember that when I last had the pleasure of seeing you, I mention'd the Inconvenience attending the want of a Fund to increase and improve your College Library.

I imagined that a Subscription set on foot for that purpose might with proper Management produce something considerable. I know you are a Friend to the College, and therefore take the freedom of inclosing a Paper of that kind, and recommending it to your care to procure (if you approve of the design) a suitable number of Hands to it. Five and twenty subscribers at four Pistoles each per Annum would in five years produce five hundred Pistoles, which if all laid out in Books would make a handsome addition to the Library or if put to interest would produce a little Annual Income sufficient to procure the best new books published in each year. Some might perhaps Subscribe more than four Pistoles per annum and others less; and I think that a single Pistole or half a Pistole should not be refused; tho' such small sums might occasion a little more Trouble in Receiving or Collecting.

I send with all an order on my Brother for my first Year's Payment. 'Tis but a trifle compar'd with my hearty good will and Respect to the College; but a small seed properly sown sometimes produces a large and fruitful Tree, which I sincerely wish may be the good Fortune of this. My respectful Compliments to M^{rs} Hancock and believe me to be with very great Esteem

Sir Your most obedient humble Servant

B. FRANKLIN.

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196. TO WILLIAM STRAHAN[1] (P. C.)

Philadelphia, October 7, 1755.

DEAR SIR: — Mr. Hall has wrote to you for a fount of English and a fount with a long-primer face on a smaller body, for the *Gazette* on my account. Enclosed is a bill for £109 8s. 4d. sterling, drawn on the Rev. Mr. Saml. Chandler, which I doubt not will be readily paid. I know not well how my account stands with you, and should be glad to see it, but suppose this bill will leave a balance in your hands after paying for those founts, so have taken the freedom to draw a small bill on you, payable to Nathl. Voogdt & Co., Merchants, London, for £2 17s. 6d. sterling, which they are to remit to Germany on a particular occasion.

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[1] From John Bigelow, "The Complete Works of Benjamin Franklin," Vol. X, p. 273. — ED.

My compliments to Mrs. Strahan, and to your promising son, perhaps one day mine. God send our children good and suitable matches, for I begin to feel a parents' cares in that respect, and fondly wish to see them well settled before I leave them.

Adieu, my dear friend, and believe me to be yours most affectionately, B. FRANKLIN.

P. S. — The enclosed pamphlet is lately printed in Boston. You will find a number of interesting facts in it. At the end a little piece of mine.

[Endorsed in pencil in Franklin's handwriting.]

Observations on the late and present conduct of the French with regard to their encroachments upon the British colonies in North America. Together with remarks on the importance of those colonies to Great Britain, by William Clarke.

To which are added by another hand "Observations concerning the increase of mankind, peopling of colonies," etc.

197. TO CATHERINE RAY[1]

Philadelphia Oct. 16, 1755.

DEAR KATY

Your Favour of the 28th of June came to hand but the 28th of September, just 3 Months after it was written. I had, two Weeks before, wrote you a long Chat, and sent it to the Care of your Brother Ward. I hear you are now in Boston, gay and lovely as usual. Let me give you some fatherly Advice. Kill no more Pigeons than you can eat — Be a good Girl and dont forget your Catechism. — Go constantly to Meeting — or church — till you get a good Husband, — then stay at home, & nurse the Children, and live like a Christian — Spend your spare Hours, in sober Whisk, Prayers, or learning to cypher — You must practise *addition* to your Husband's Estate, by Industry & Frugality; *subtraction* of all unnecessary Expenses; *Multiplication* (I would gladly have taught you that myself, but you thought it was time enough, & wou'dn't learn) he will soon make you a Mistress of it. As to *Division*, I say with Brother Paul, *Let there be no Division among ye.* But as your good Sister Hubbard (my love to her) is well acquainted with *The Rule of Two*, I hope you will become an expert in the *Rule of Three;* that when I have again the pleasure of seeing you, I may find you like my Grape Vine, surrounded with Clusters, plump, juicy, blushing, pretty little rogues, like their Mama.

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[1] From *Rhode Island Mercury and Gazette*, April 7, 1896. Previously printed in *Boston Post*, January 10, 1850. — ED.

Adieu. The Bell rings, and I must go among the Grave ones, and talk Politicks. Your affectionate Friend

B. FRANKLIN.

P. S. The Plums came safe, and were so sweet from the Cause you mentioned, that I could scarce taste the Sugar.

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198. TO WILLIAM JOHNSON[1] (A. P. S.)

Mr JOHNSTON Philada Oct. 16. 1755.

SIR

I have settled Col. Hunters Acct. and find a Ballance in my Hands of £835 „0„ 3½ Pensilva. Currency, which shall be paid to your Orders, if you find it necessary to draw on me.

I enclose you a Copy of a Letter I have just received from General Shirley, with a Copy of his Warrant to you for the Payment of such Sums to me as the Waggon Affair may require. Col. Hunter is expected here in a few Days, I suppose in his Way to meet you at New York according to his Appointment. This will delay my Journey down till he comes, as I want to see him, & fear I might miss him on the Way, not knowing on which Side of the Bay he purposes to travel. I hope when you meet, some Method will be found of transferring the Cash, for Payment of these poor People without much Trouble or Risque to him or you.

I am with much Respect, Sir,

Your most huml Servt.

B FRANKLIN

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[1] Sir William Johnson (1715–1774) was appointed by General Braddock (April, 1755) "Sole superintendent of the affairs of the six united nations, their allies, and dependants." He was knighted, November 27, 1755. — ED.

199. TO COLONEL HUNTER[1] (A. P. S.)

COL. HUNTER, Philad^a^ Oct. 16. 1755

DEAR SIR,

I could not avoid meeting the Assembly, who are now sitting, but must rise in two or three Days, when I purposed to proceed to Virginia; But your Letter to Mrs Nelson mentioning your Intention of being here in ten Days, and being very desirous of seeing you in order to settle our Money Acct. & concert Measures relating to a farther Supply of Cash to discharge the Waggon Affair, General Shirley having sent his Warrant to Mr Johnston to pay me such Sum as shall be found necessary for that purpose after Settlement of the Waggon Accts. I shall now wait your Arrival here, fearing I might otherwise miss you on the Way. Mr Johnson has drawn out of my Hands all your Cash to about 800 £ Currency.

B. FRANKLIN

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200. TO WILLIAM SHIRLEY (A. P. S.)

Philad^a^, Oct. 23, 1755.

SIR,

I beg leave to return your Excelly my sincerest and most hearty Thanks for your Letter of the 17th of September, with the Orders for Payment of the Waggon Owners, and an Extract of your Orders to Col. Dunbar, forbidding the Enlistment of Servants and Apprentices. Acts of Justice so readily done become great Favours, which I hope will be ever gratefully acknowledg'd by this People in Actions as well as Words.

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[1] Franklin and Colonel Hunter were jointly postmasters-general for the colonies. — ED.

I have also your Favour of the 5th Instant. Gov. Morris is gone to Newcastle, to meet the Assembly of the Lower Counties, so that I cannot at present see the Papers you refer me to. But I shall wait upon him in my Journey to Virginia; and if on perusing those Papers any thing seeming worth your Notice should occur to me, I shall communicate my Sentiments to you with that honest Freedom, which you always approve.

This Journey, which I cannot now avoid, will deprive me of the Pleasure of Waiting on your Excellency at New York at the Time you mention. I hear, too, that the Gov. does not purpose to send any Commissioners thither, but to go himself. I know not what is to be the particular Subject of your Consultations; but, as I believe all your Schemes have the King's Service (which is the public good) in view, I cannot but wish them Success.

Our Assembly meets the beginning of December, when I hope to be at home again; and, if any Assistance is to be required of them and the People here, depend on my faithful Services, so far as my little Sphere of Influence shall extend. With the highest Esteem and Respect, I have the Honour to be, &c.

B. FRANKLIN.

201. TO RICHARD PATRIDGE[1] (A. P. S.)

Philad^{a} Oct. 25. 1755.

SIR,

The above is a Copy of mine per Capt. Joy. Since wch. the new Assembly met, and chose you & Mr Charles their Agents for the ensuing Year. The Governor offer'd. nothing to the House: but they hearing occasionally that he had rec^{d} some Letters of Importance relating to Indian Affairs, sent a particular Message to enquire if he had any thing of Consequence, particularly of that kind, to lay before them; & he answered that he had not. Nor did he communicate the Letters receiv'd during the preceding Session from Boston, requesting more Provisions. The House adj^{d} to the first of December.

In pursuance of the Vote in the September Session, a considerable Sum is subscribed here for the Supply of the Troops who are to be during the Winter on the Frontiers of N. York &c., with warm Wastecoats, Stockings & Mittens, as well as with Provisions; which will be speedily forwarded.

We have this Day the bad News that the Enemy have last Week surpris'd and cut off eight Families in this Province: 13 grown Persons were killed & scalped, and 12 Children carried away. They were new Settlers at a place called Penn's Creek near Shamokin. This is a natural Consequence of the loose manner of Settling in these Colonies, picking here and there a good Piece of Land, and sitting down at such a distance from each other as that a few Indians may destroy a Number of Familys one after the other, without their being even alarm'd or able to afford one another any Assistance.

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[1] Richard Patridge, or Partridge, was born probably at Portsmouth, N. H., December 9, 1681, eldest son of the Hon. William Partridge, Lieutenant-Governor of New Hampshire. He died in London, March 6, 1759. — ED.

The People on the Frontiers having petitioned for Arms and Ammunition for their Defence, 600 good Arms have been purchased and sent up by the Committee of Assembly with suitable Ammunition, to supply such as are without & unable to buy for themselves. —And could our Bill for 50,000£ have been obtained, a great deal more might have been done for the Security of the Country in the military way, as the Disposition of the Money was by the Bill put into such Hands as have no Scruples on that head. —

I hear that a Party Petition to the King against the Assembly is privately handed about to get Hands, and is to be sent over in this Ship; but I have not had a Sight of it, and can say nothing certain of the Contents.

I hope the ensuing Parliament will establish an Union of the Colonies for their common Defence, which will extinguish all these uncomfortable Disputes.

I am Sir,

Your hum. Servt.

B. F.

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202. PLAN FOR SAVING ONE HUNDRED THOUSAND POUNDS

FROM POOR RICHARD'S ALMANAC, 1756

As I spent some Weeks last Winter, in visiting my old Acquaintance in the *Jerseys*, great Complaints I heard for Want of Money, and that Leave to make more Paper Bills could not be obtained. *Friends and Countrymen*, my Advice on this Head shall cost you nothing, and if you will not be angry with me for giving it, I promise you not to be offended if you do not take it.

You spend yearly at least *Two Hundred Thousand Pounds*, 'tis said, in *European*, *East-Indian*, and *West-Indian* Commodities: Supposing one Half of this Expence to be in *Things absolutely necessary*, the other Half may be called *Superfluities*, or, at best, Conveniences, which however you might live without for one little Year, and not suffer exceedingly. Now to save this Half, observe these few Directions.

1. When you incline to have new Cloaths, look first well over the old Ones, and see if you cannot shift with them another Year, either by Scouring, Mending, or even Patching if necessary. Remember a Patch on your Coat, and Money in your Pocket, is better and more creditable, than a Writ on your Back, and no Money to take it off.

2. When you incline to buy China Ware, Chinces, *India* Silks, or any other of their flimsey, slight Manufactures; I would not be so hard with you, as to insist on your absolutely *resolving against it;* all I advise, is, to *put it off* (as you do your Repentance) *till another Year;* and this, in some Respects, may prevent an Occasion of Repentance.

3. If you are now a Drinker of Punch, Wine, or Tea, twice a Day; for the ensuing Year drink them but *once* a Day. If you now drink them but once a Day, do it but every other Day. If you do it now but once a Week, reduce the Practice to once a Fortnight. And if you do not exceed in Quantity as you lessen the Times, half your Expence in these Articles will be saved.

4thly and lastly, When you incline to drink Rum, fill the Glass *half* with Water.

Thus at the Year's End, there will be *An Hundred Thousand Pounds* more Money in your Country.

If Paper Money in ever so great a Quantity could be made, no Man could get any of it without giving something for it. But all he saves in this Way, will be *his own for nothing*, and his Country actually so much richer. Then the Merchants' old and doubtful Debts may be honestly paid off, and Trading become surer thereafter, if not so extensive.

203. TO JAMES READ[1]

Philadelphia, November 2, 1755.

DEAR SIR,

I have your letter by Mr. Sea, and one just now by express. I am glad to hear the arms are well got up; they are the best that we could procure. I wish they were better; but they are well fortified, will bear a good charge, and I should imagine they would do good service with swan or buck shot, if not so fit for single ball. I have been ill these eight days, confined to my room and bed most of the time, but am now getting better. I have, however, done what I could in sending about to purchase arms, &c., for the supply of the frontiers, and can now spare you fifty more, which I shall send up to-morrow with some flints, lead, swan-shot, and a barrel of gunpowder. The arms will be under your care and Mr. Weiser's,[2] you being gentlemen in commission from the governor. Keep an account of whose hands you put them into. Let them be prudent, sober, careful men, such as will not rashly hurt our friends with them, and such as will honestly return them when peace shall be happily restored.

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[1] First printed by Sparks.

[2] Conrad Weiser, a trapper and Indian interpreter, often mentioned by Franklin. — ED.

I sincerely commiserate the distress of your out settlers. The Assembly sit to-morrow, and there is no room to doubt of their hearty endeavours to do every thing necessary for the country's safety. I wish the same disposition may be found in the governor, and I hope it. I have put off my journey to Virginia, and you may depend on my best services for the common welfare, so far as my little influence extends. I am your affectionate kinsman and humble servant,

B. FRANKLIN.

P.S. My best respects to Mr. Weiser. Nine hundred arms with ammunition have been sent up, by the committee of Assembly, to different parts of the frontier.

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204. AN ACT

FOR THE BETTER ORDERING AND REGULATING SUCH AS ARE WILLING AND DESIROUS TO BE UNITED FOR MILITARY PURPOSES WITHIN THE PROVINCE OF PENSYLVANIA [1]

PASSED NOV. 25, 1755.

WHEREAS this province was first settled by (and a majority of the Assemblies have ever since been of) the people called Quakers, who, though they do not, as the world is now circumstanced, condemn the use of arms in others, yet are principled against bearing arms themselves; and to make any law to compel them thereto, against their consciences, would not be only to violate a fundamental in our constitution, and be a direct breach of our charter of privileges, but would also in effect be to commence persecution against all that part of the inhabitants of the province; and for them by any law to compel others to bear arms, and exempt themselves, would be inconsistent and partial; yet forasmuch as by the general toleration and equity of our laws, great numbers of people of other religious denominations are come among us, who are under no such restraint, some of whom have been disciplined in the art of war, and conscientiously think it their duty to fight in defence of their country, their wives, their families, and estates, and such have an equal right to liberty of conscience with others; and whereas a great number of petitions from the several counties of this

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[1] From the *Gentleman's Magazine*, February, 1756, p. 83. The editor of the magazine appends to the text the following note: "We think ourselves much obliged to our friend *Americanus* for his favour dated *Philadelphia* Nov. 20, 1755, notwithstanding the cost, but he will see by our last *Mag* and *Supp* that what he recommended to us is anticipated. We are not surprized, that bigots of any party should be offended with our state of public contests, as

we make it an invariable rule to keep that mean which is equally distant from both extremes, and as we are not conscious to the influence of passion, we hope we have been directed by truth. We should indeed sometimes be glad to avoid filling any of our pages with a subject that if remember'd must be remember'd only to be regretted. But it is expected of us by our readers, as an essential part of our plan, and we think it also due to posterity, who, we flatter ourselves, will consider our compilations as authentic materials for the history of the present times." — ED.

The defeat of General Braddock at the battle of the Monongahela, on the 9th of July, 1755, had filled the people of Pennsylvania with alarm. The Assembly at its next session made a large grant in money for purposes of defence. The doctrine of non-resistance, which was a part of the creed of a large portion of the population, had hitherto prevented the establishment of any efficient militia system. To meet the present crisis, Franklin drew up the following act for embodying and disciplining a voluntary militia. It was carried through the House, he says, without much difficulty, because care had been taken to leave the Quakers at liberty. — S.

province have been presented to this House, setting forth, that the petitioners are very willing to defend themselves and their country, and desirous of being formed into regular bodies for that purpose, instructed and disciplined under proper officers, with suitable and legal authority; representing withal, that unless measures of this kind are taken, so as to unite them together, subject them to due command, and thereby give them confidence in each other, they cannot assemble to oppose the enemy, without the utmost danger of exposing themselves to confusion and destruction;

And whereas the voluntary assembling of great bodies of armed men from different parts of the province on any occasional alarm, whether true or false, as of late hath happened, without call or authority from the government, and without due order and direction among themselves, may be attended with danger to our neighbouring *Indian* friends and allies, as well as to the internal peace of the province;

And whereas the Governor hath frequently recommended it to the Assembly, that in preparing and passing a Law for such Purposes, they should have a due regard for scrupulous and tender consciences, which cannot be done where compulsive means are used to force men into military service; therefore, as we represent all the people of the province, and are composed of members of different religious persuasions, we do not think it reasonable that any should, through a want of legal powers, be in the least restrained from doing what they judge it their duty to do for their own security and the public good; we in compliance with the said petitions and recommendations, do offer it to the governor to be enacted, and be it enacted by the Hon. *Robert Hunter Morris*, with the King's royal approbation lieutenant-governor, under the Hon. *Thomas Penn*, and *Richard Penn*, Esqrs., true and absolute proprietors of the province of *Pensylvania*, and of the counties of *Newcastle*, *Kent*, and *Sussex*, upon *Delaware*, by and with the advice and consent of the representatives of the freemen of the said province in General Assembly met, and by the authority of the same, that from and after the publication of this act, it shall and may be lawful for the freemen of this province to form themselves into companies, as heretofore they have used in time of war without law, and for each company, by majority of votes in the way of ballot, to chuse its own officers, to wit, a captain, lieutenant, and ensign, and present them to the governor or commander-in-chief for the time being for his approbation; which officers so chosen, if approved and commissioned by him, shall be the captain, lieutenant, and ensign of each company respectively, according to their commissions; and, the said companies being divided into regiments by the governor or commander-in-chief, it shall and may be lawful for the officers so chosen and commissioned for the several companies of each regiment, to meet together, and by majority of votes, in the way of ballot, to chuse a colonel, lieutenant-colonel, and major, for the regiment, and present them to the governor or commander-in-chief for his approbation; which officers so chosen, if approved and commissioned by him, shall be the colonel, lieutenant-colonel, and major of the regiment, according to their commissions, during the continuance of this act.

Provided always, that if the governor or commander-in-chief shall not think fit to grant his commission to any officer so first chosen and presented, it shall and may be lawful for the electors of such officer to chuse two other persons in his stead, and present them to the governor or commander-in-chief, one of whom, at his pleasure, shall receive his commission, and be the officer as aforesaid.

And be it further enacted by the authority aforesaid, that as soon as the said companies and regiments are formed, and their officers commissioned as aforesaid, it shall and may be lawful to and for the governor, or commander-in-chief, by and with the advice and consent of the colonels, lieutenant-colonels, and majors of all the regiments, being for that purpose by him called and convened, or by and with the advice and consent of a majority of the said officers that shall be met and present together on such call, to form, make, and establish articles of war, for the better government of the forces that shall be under their command, and for bringing offenders against the same to justice; and to erect and constitute courts-martial, with power to hear, try, and determine any crimes or offences by such articles of war, and inflict penalties by sentence or judgement of the same on those who shall be subject thereto, in any place within this province. Which articles of war, when made as aforesaid, shall be printed and distributed to the captains of the several companies, and by them distinctly read to their respective companies; and all and every captain, lieutenant, ensign, or other freeman, who shall, after at least three days' consideration of the said articles, voluntarily sign the same, in presence of some one justice of the peace, acknowledging his having perused or heard the same distinctly read, and that he has well considered thereof, and is willing to be bound and governed thereby, and promises obedience thereto, and to his officers accordingly, shall henceforth be deemed well and duly bound to the observance of the said articles, and to the duties thereby required, and subject to the pains, penalties, punishments, and forfeitures, that may therein be appointed for disobedience and other offences.

Provided always, that the articles, so to be made and established, shall contain nothing repugnant, but be as near as possible conformable to the military laws of *Great Britain*, and to the articles of war made and established by his Majesty in pursuance of the last act of Parliament for punishing mutiny and desertion, the different circumstances of this province compared with *Great Britain*, and of a voluntary militia of freemen compared with mercenary standing troops, being duly weighed and maturely considered.

Provided also, that nothing in this act shall be understood or construed to give any power or authority to the governor or commander-in-chief, and the said officers, to make any articles or rules that shall in the least affect those of the inhabitants of the province who are conscientiously scrupulous of bearing arms, either in their liberties, persons, or estates; nor any other persons of what persuasion or denomination soever, who have not first voluntarily and freely signed the said articles after due consideration as aforesaid.

Provided also, that no youth under the age of twenty-one years, nor any bought servant or indented apprentice, shall be admitted to enroll himself, or be capable of being enroll'd, in the said companies or regiments, without the consent of his or their parents or guardians, masters or mistresses, in writing under their hands first had and obtained.

Provided also, that no enlistment or enrolment of any person in any of the companies or regiments to be formed and raised as aforesaid, shall protect such person in any suit or civil action brought against him by his creditors or others, except during his being in actual service in field or garrison; nor from a prosecution for any offence committed against the laws of this province.

Provided, also, that no regiment, company, or party of volunteers, shall, by virtue of this act, be compelled or led more than three days' march beyond the inhabited parts of the province; nor detained longer than three weeks in any garrison, without an express engagement for that purpose, first voluntarily entered into and subscribed by every man so to march or remain in garrison.

This act to continue in force until the 30th day of October next, and no longer.

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205. TO WILLIAM STRAHAN[1] (P. C.)

Philadelphia, November 27, 1755.

DEAR SIR,

I have yours of October 3d; *Bolitho* being just arrived, the things not yet come on shore.

By the account sent I find I was then £59. 4s. 6d. sterling in your debt. I hope you have since received the bills I sent you *per* Joy & Budden for £109. 8s. 4d. sterling, which will leave a balance in my favour.

I do not at all approve of B. Mecom's being so much in your debt, and shall write to him about it. The people of those islands expect a great deal of credit, and when the books are out of his hands, if he should die, half would not be collected. This I have learned by experience in the case of poor Smith, whom I first settled there. I am glad, therefore, that you declined sending him the other things he wrote for. Pray write to him for the pay and make him keep touch; that will oblige him to dun quick and get in his debts; otherwise he may hurt himself, and you in the end. Remember I gave you this caution and that you venture on your own risk.

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[1] From John Bigelow, "The Complete Works of Benjamin Franklin," Vol. X., p. 274. — ED.

I shall be glad to be of any service to you in the affair you mention relating to the *Gentleman's Magazine*, and our daughter (who already trades a little in London) is willing to undertake the distributing of them *per* post from this place, hoping it may produce some profit to herself. I will immediately cause advertisements to be printed in the papers here, at New York, New Haven, and Boston, recommending that magazine and proposing to supply all who will subscribe for them at 13s. this currency, a year, the subscribers paying down the money for one year beforehand; for otherwise there will be a considerable loss by bad debts. As soon as I find out what the subscription will produce I shall know what number to send for. Most of those for New England must be sent to Boston. Those for New York, Connecticut, Pennsylvania, and Maryland must be sent to New York or Philadelphia, as opportunities offer to one place or the other. As to Virginia, I believe it will scarce be worth while to propose it there, the gentlemen being generally furnished with them by their correspondents in London. Those who incline to continue, must pay for the second year three months before the first expires, and so on from time to time. The postmaster in those places to take in the subscription money and distribute the magazines, etc. These are my first thoughts. I shall write further. That magazine has always been, in my opinion, by far the best. I think it never wants matter, both entertaining and instructive, or I might now and then furnish you with some little pieces from this part of the world.

My wife and daughter join in sincerest good wishes of prosperity to you and all yours, with, dear sir, your most obedient humble servant,

B. FRANKLIN.

My respects to Mr. Newbery,[1] of whom you give so amiable a character.

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206. TO WILLIAM PARSONS[2] (A. P. S.)

Philad^a, Dec. 5, 1755.

DEAR SIR,

I receiv'd your Fav^r of Nov. 25, and take this first Opportunity of acquainting you, that an Act is passed granting £60,000 chiefly for the Defence of the Province, and is to be dispos'd of for that purpose, by 7 Persons, viz. I. Norris, Ja Hamilton, J. Mifflin, Jos Fox, Evan Morgan, Jon' Hughes, and your old Friend. We meet every Day, Sundays not excepted, and have a good Agreem^t with the Govern. 300 Men are ordered to be immediately raised on pay, to range the Frontiers, and Blockhouses for Stages to be erected at proper Distances and garrison'd; so that I hope in a little Time to see things in a better Posture. A Militia Act is also pass'd, of which, if People are but well dispos'd, a good Use may be made, and Bodies of Men be ready on any Occasion to assist and support the Rangers. All Party laid aside, let you and I use our Influence to carry this Act into Execution.

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[1] John Newbery (1713–1767), "the philanthropic bookseller" of St. Paul's Churchyard, who projected *The Universal Chronicle or Weekly Gazette.* — ED.

[2] William Parsons was one of the earliest members of the *Junto.* He was afterwards Surveyor-General of Pennsylvania. When this letter was written he was at Easton. He died in 1758. This letter and the following one are here printed from the originals in the "Tim^y Horsefield's Papers Chiefly on Indian Affairs of Pennsylvania" (A. P. S.). — ED.

I received also your Letter of the 27th, relating the unhappy Affair at Gnadenhüt, and desiring Arms. I have accordingly procur'd and sent up by a Waggon to one George Overpack's a Chest of Arms containing 50, and 5 loose, in all 55, of which 25 are for Eastown, and 30 to be dispos'd of to such Persons nearest Danger on the Frontiers, who are without Arms and unable to buy, as yourself, with Messrs. Atkins and Martin may judge most proper; letting all know, that the Arms are only lent, for their Defence; that they belong to the Publick, and must be held forth-coming when the Government shall demand them; for which each Man should give his Note. By the same Waggon we send 25 Guns for Lehi Township, and 10 for Bethlehem to the Moravian Brethren; which make in all 100; with which goes 100^{wt} of Gunpowder, and 400^{lb} lead; so there should be 1^{lb} of Powder and 4^{lb} of lead divided to each Gun.

Who brought your last Letter to me I know not, it being left at my House. You mention sending a Waggon, and I daily expected to see the Waggoner, but he never called on me for an Answer. Please to let me know by a Line when you have received what is sent. I am your affectionate Friend and humble Servt.

B. Franklin.

207. TO WILLIAM PARSONS (A. P. S.)

Philad^{a} Dec. 15, 1755.

DEAR FRIEND,

We receiv'd yours of the 13th. You will before this time have receiv'd the Arms and Ammunition, Blankets, &c., sent up for an intended Ranging Party. They may be made Use of for the Defence of your Town till we arrive. Capt. Trump, from Upper Dublin, marches the Day after to-morrow with 50 Men to your Assistance. The Provisions for their Use go with them, so that they will not burthen you. Orders are gone to Capts. Aston and Wayne to march also with their Companies immediately. They will remain on your Frontier two or three months, till they can be reliev'd by others.

Mr. Hamilton and myself set out on Thursday to visit you, erect Blockhouses in proper Places, etc. Think of suitable officers for raising and commanding Men to be kept in the Province Pay; for Mr. Hamilton does not know the People your way, nor do I know who to recommend. He will bring some blank Commissions with him. I inclose you Twenty Pounds towards buying Meal and Meat for the poor Fugitives, that take Refuge with you. Be of good Courage, and God guide you. Your Friends will never desert you. I am yours affectionately,

B. FRANKLIN.

P.S. Interest on the Bill 11/8 is £20 11. 8.

208. A DIALOGUE

BETWEEN X, Y, & Z, CONCERNING THE PRESENT STATE OF AFFAIRS IN PENSYLVANIA

The object of this *Dialogue*, as the author tells us, was to enlighten the public mind on his Militia Act, and to promote the association necessary to form a militia. In his opinion it had "great effect." Such objections as could be brought against the Act, are stated and answered in a manner suited to the understanding of the people. It was first printed in *The Pennsylvania Gazette*, December 18th, 1755. The Militia Act and the Dialogue were published in the *Gentleman's Magazine*, London, the one in February, the other in March, 1756. In an editorial paragraph it is said, "The conduct of the Assembly of Pennsylvania, at this time of imminent danger, being thought by many somewhat extraordinary, every thing that tends to give light into the motives of its proceedings must deserve attention." — ED.

X. YOUR servant, gentlemen; I am glad to see you at my house. Is there any thing new to-day?

Y. We have been talking of the militia act; have you seen it?

X. Yes; I have read it in the papers.

Z. And what do you think of it?

X. The more I consider it, the better I like it. It appears to me a very good act, and I am persuaded will be of good use, if heartily carried into execution.

Z. Ay, that may be; but who is to carry it into execution? It says, that people may form themselves into companies, and chuse their own officers; but there is neither time nor place appointed for this transaction, nor any person directed or impowered to call them together.

X. 'Tis true; but methinks there are some words that point out the method pretty plain to willing minds. And it seems to me, that we who joined so sincerely in the petitions for a militia law, and really thought one absolutely necessary for the safety of our country, should, now we have obtained the law, rather endeavour to *explain*, than *invent* difficulties in the construction of it.

Y. What are those words you mention?

X. Here is the act itself; I'll read that part of it. "From and after the publication of this act, it shall and may be lawful for the freemen of this province to form themselves into companies, *as heretofore they used in time of war without law*, and for each company, by majority of votes, in the way of ballot, to chuse its own officers, &c." The words I meant are these, "*as heretofore they have used in time of war.*" Now I suppose we have none of us forgot the association in the time of the last war; 'tis not so long since, but that we may well enough remember the method we took to form ourselves into companies, chuse our officers, and present them to the governor for approbation and commissions; and the act in question says plainly, we may now *lawfully do*, in this affair, what we then did *without law.*

Y. I did not before take so much notice of those words, but to be sure, the thing is easy enough; for I remember very well how we managed at that time. And indeed 'tis easier to effect it now than it was then; for the companies and regiments, and their districts, &c., were then all to form and settle. But now, why may not the officers of the old companies call the old associators together, with such others in the district of each company, as incline to be concerned, and proceed immediately to a new choice by virtue of the act? Other new companies may in other places be formed, as the associated companies were.

Z. You say right. And if this were all the objection to the act, no doubt they would do so immediately. But 'tis said, there are other faults in it.

X. What are they?

Z. The act is so loose, that persons who never intended to engage in the militia, even *Quakers*, may meet and vote in the choice of the officers.

X. Possibly; — but was any such thing observed in the association elections?

Z. Not that I remember.

X. Why should it be more apprehended now, than it was at that time? Can they have any motives to such a conduct now, which they had not then?

Z. I cannot say.

X. Nor can I. If a militia be necessary for the safety of the province, I hope we shall not boggle at this little difficulty. What else is objected?

Z. I have heard this objected, That it were better the governor should appoint the officers; for, the choice being in the people, a man very unworthy to be an officer may happen to be popular enough to get himself chosen by the undiscerning mob.

X. 'Tis possible: And if all officers appointed by governors were always men of merit, and fully qualified for their posts, it would be wrong ever to hazard a popular election. It is reasonable, I allow, that the commander-in-chief should not have officers absolutely forced upon him, in whom, from his knowledge of their incapacity, he can place no confidence. And, on the other hand, it seems likely that the people will engage more readily in the service, and face danger with more intrepidity, when they are commanded by a man they know and esteem, and on whose prudence and courage, as well as good-will and integrity, they can have reliance, than they would under a man they either did not know, or did not like. For supposing governor (sic) ever so judicious and upright in the distribution of commissions, they cannot know everybody, in every part of the province, and are liable to be imposed on by partial recommendations; but the people generally know their neighbours. And to me, the act in question seems to have hit a proper medium between the two modes of appointing: The people chuse, and if the governor approves, he grants the commission; if not, they are to chuse a second, and even a third time. Out of three choices, 'tis probable one may be right; and where an officer is approved both by superiors and inferiors, there is the greatest prospect of those advantages that attend a good agreement in the service. This mode of choice is moreover agreeable to the liberty and genius of our constitution. 'Tis similar to the manner in which by our laws sheriffs and coroners are chosen and approved. And yet it has more regard to the prerogative than the mode of choice in some colonies, where the military officers are either chosen absolutely by the companies themselves, or by the house of representatives, without any negative on that choice, or any approbation necessary from the governor.

Y. But is that agreeable to the *English* constitution?

X. Considered in this light, I think it is; *British* subjects, by removing into *America*, cultivating a wilderness, extending the dominion, and increasing the wealth, commerce, and power of their mother country, at the hazard of their lives and fortunes, ought not, and in fact do not thereby lose their native rights. There is a power in the crown to grant a continuance of those rights to such subjects, in any part of the world, and to their posterity born in such new country; and for the farther encouragement and reward of such merit, to grant *additional* liberties and privileges, not used in *England*, but suited to the different circumstances of different colonies. If then the grants of those additional liberties and privileges may be regularly made under an *English* constitution, they may be enjoyed agreeable to that constitution.

Y. But the act is very short; there are numberless circumstances and occasions pertaining to a body of armed men, which are not, as they ought to have been, expressly provided for in the act.

X. 'Tis true, there are not express provisions in the act for all circumstances; but there is a power lodged by the act in the governor and field-officers of the regiments, to make all such provisions, in the articles of war which they may form and establish.

Y. But can it be right in the legislature, by any act, to delegate their power of making laws to others?

X. I believe not, generally; but certainly in particular cases it may. Legislatures may, and frequently do give to corporations, power to make bye-laws for their own government. And in this case, the act of parliament gives the power of making articles of war for the government of the army, to the king alone, and there is no doubt but the parliament understands the rights of government.

Y. Are you sure the act of parliament gives such power?

X. This is the act. The power I mention is here in section 55. "Provided always, that it shall and may be lawful to and for his majesty, to form, make, and establish articles of war for the better government of his majesty's forces, and for bringing offenders against the same to justice; and to erect and constitute courts-martial, with power to try, hear, and determine any crimes or offences by such articles of war, and inflict penalties by sentence or judgment of the same." And here you see, bound up with the act, the articles of war, made by his majesty in pursuance of the act, and providing for every circumstance.

Z. It is, sure enough. I had been told that our act of assembly was impertinently singular in this particular.

X. The g — r himself, in a message to the house, expressly recommended this act of parliament for their imitation, in forming the militia bill.

Z. I never heard that before.

X. But it is true. The assembly, however, (considering that this militia would consist chiefly of freeholders,) have varied a little from that part of the act of parliament, in favour of liberty; they have not given the sole power of making those articles of war *to the governor*, as that act does *to the king;* but have joined with the governor, for that purpose, a number of officers to be chosen by the people. The articles, moreover, are not to be general laws, binding on all the province, nor on any man who has not first approved of them, and voluntarily engaged to observe them.

Z. Is there no danger that the governor and officers may make those articles too severe?

X. Not without you can suppose them enemies to the service, and to their country: for if they should make such as are unfit for freemen and *Englishmen* to be subjected to, they will get no soldiers; nobody will engage. In some cases, however, if you and I were in actual service, I believe we should both think it necessary for our own safety, that the articles should be pretty severe.

Z. What cases are they?

X. Suppose a centinel should betray his trust, give intelligence to the enemy, or conduct them into our quarters.

Z. To be sure there should be severe punishments for such crimes, or we might all be ruined.

X. Chuse reasonable men for your officers, and you need not fear their making reasonable laws; and if they make such, I hope reasonable men will not refuse to engage under them.

Y. But here is a thing I don't like. By this act of assembly, the *Quakers* are neither compelled to muster, nor to pay a fine if they don't.

X. It is true; nor could they be compelled either to muster or pay a fine of that kind, by any militia law made here. They are exempted by the charter and fundamental laws of the province.

Y. How so?

X. See here; it is the first clause in the charter. I'll read it. "Because no people can be truly happy, though under the greatest enjoyment of civil liberties, if abridged of the freedom of their consciences as to their *religious profession* and worship: And Almighty God being the only lord of conscience, father of lights and spirits, and the author as well as object of all divine knowledge, faith, and worship, who only doth enlighten the minds, and persuade and convince the understandings of people; I do hereby grant and declare, That no person or persons inhabiting in this province or territories, who shall confess and acknowledge one Almighty God, the creator, upholder, and ruler of the world, and profess him or themselves obliged to live quietly under the civil government, shall be, IN ANY CASE, MOLESTED OR PREJUDICED in his or their PERSON OR ESTATE because of his or their *conscientious persuasion* or practice, nor be compelled to frequent or maintain any religious worship, place, or ministry, contrary to his or their mind, or to DO OR SUFFER any OTHER ACT OR THING, contrary to their religious persuasion." And, in the 8th section of the same charter, you see a declaration, that "neither the proprietor, nor his heirs or assigns, shall procure or do any thing or things, whereby the liberties in this charter contained or expressed, nor any part thereof, shall be infringed or broken; and if any thing shall be procured or done by *any person or persons*, contrary to these presents, it shall be held of NO FORCE OR EFFECT." This liberty of conscience granted by charter, is also established by the first law in our book, and confirmed by the crown. And moreover, the governor has an express instruction from the proprietaries, that, in case of making any militia law, he shall take especial care that the charter be not infringed in this respect. Besides, most of our petitions for a militia from the moderate part of the people, requested particularly that due regard might be had to scrupulous and tender consciences. When taxes are raised, however, for the king's service, the *Quakers* and *Menonists* pay their part of them, and a great part; for as their frugality and industry makes them generally wealthy, their proportion is the greater compared with their numbers. And out of these taxes those men are paid who go into actual service. As for mustering and training, no militia are anywhere paid for that. It is by many justly delighted in, as a manly exercise. But those who are engaged in actual service for any time, ought undoubtedly to have pay.

Y. There is no provision in this militia act to pay them.

X. There is a provision, that no regiment, company, or party, though engaged in the militia, shall be obliged "to more than three days' march, &c., without an express engagement for that purpose, first voluntarily entered into and subscribed by every man, so to march or remain in garrison." And 'tis to be supposed, that no man will subscribe such particular engagement without reasonable pay, or other encouragement.

Y. But where is that pay to come from?

X. From the government to be sure; and out of the money struck by the act for granting £60,000.

Z. Yes; but those who serve must pay a share of the tax, as well as those who don't.

X. Perhaps not. 'Tis to be supposed, that those who engage in the service for any time, upon pay, will be chiefly single men, and they are expressly exempted from the tax by the £60,000 act. Consequently those who do not serve, must pay the more; for the sum granted must be made up.

Z. I never heard before, that they were exempted by that act.

X. It is so, I assure you.

Y. But there is no provision in the militia act for the maimed.

X. If they are poor, they are provided for by the laws of their country. There is no other provision by any militia law that I know of. If they have behaved well, and suffered in their country's cause, they deserve, moreover, some grateful notice of their service, and some assistance from the common treasury; and if any particular township should happen to be overburthened, they may, on application to the government, reasonably expect relief.

Z. Though the *Quakers*, and others conscientiously scrupulous of bearing arms, are exempted, as you say, by charter, they might, being a majority in the assembly, have made the law compulsory on others. At present, 'tis so loose, that nobody is obliged by it, who does not voluntarily engage.

X. They might indeed have made the law compulsory on all others. But it seems, they thought it more equitable and generous to leave to all as much liberty as they enjoy themselves, and not lay even a seeming hardship on others, which they themselves declined to bear. They have, however, granted all we asked of them. Our petitions set forth, that "we were freely willing and ready to defend ourselves and country, and all we wanted was legal authority, order, and discipline." These are now afforded by the law, if we think fit to make use of them. And indeed I do not see the advantage of compelling people of any sect into martial service, merely for the sake of raising numbers. I have been myself in some service of danger, and I always thought cowards rather *weakened* than *strengthened* the party. Fear is contagious, and a pannic once begun spreads like wildfire, and infects the stoutest heart. All men are not by nature brave; and a few who are so, will do more effectual service by themselves, than when accompanied by, and mixed with, a multitude of poltroons, who only create confusion, and give advantage to the enemy.

Z. What signifies what *you thought* or think? Others think differently; And all the wise legislatures in the other colonies have thought fit to compell all sorts of persons to bear arms, or suffer heavy penalties.

X. As you say, what I *thought*, or *think*, is not of much consequence. But a wiser legislator than all those you mention put together, and who better knew the nature of mankind, made his military law very different from theirs in that respect.

Z. What legislator do you mean?

X. I mean God himself, who would have no man led to battle that might rather wish to be at home, either from fear or other causes.

Z. Where do you find that law?

X. 'Tis in the 20th chapter of *Deuteronomy*, where are these words, *When thou goest out to battle against thine enemies, — the officers shall speak unto the people, saying, What man is there that hath built a new house, and hath not dedicated it? Let him go and return to his house, lest he die in the battle, and another man dedicate it. And what man is he that hath planted a vineyard, and hath not yet eaten of it? Let him also go and return unto his house, lest he die in the battle, and another man eat of it. And what man is there that hath betrothed a wife, and hath not taken her? Let him go and return unto his house, lest he die in battle, and another man take her. And —*

Z. These all together could not be many; and this has no relation to cowardice.

X. If you had not interrupted me, I was coming to that part verse 8, *And the officers shall speak farther unto the people, and they shall say, What man is there that is* FEARFUL *and* FAINT-HEARTED? *Let him go and return unto his house, lest his brethren's heart faint as well as his heart;* that is, lest he communicate his fears, and his brave brethren catch the contagion, to the ruin of the whole army. Accordingly we find, that under this military law, no people in the world fought more gallantly, or performed greater actions, than the *Hebrew* soldiery. And if you would be informed what proportion of people would be discharged by such a proclamation, you will find that matter determined by an actual experiment, made by General *Gideon*, as related in the 7th Chapter of *Judges:* for he, having assembled 32,000 men against the *Midianites*, proclaimed, according to law, (verse the third,) *Whosoever is* FEARFUL *and* AFRAID, *let him return and depart early from Mount Gilead.*

Z. And pray how many departed?

X. The text says, there departed 22,000, and there remained but 10,000. A very great sifting! and yet on that particular occasion a farther sifting was required. Now it seems to me, that this militia law of ours, which gives the brave all the advantages that they can desire, of order, authority, discipline, and the like, and compells no cowards into their company, is such a kind of sieve, as the *Mosaic* proclamation. For with us, not only every man who has built a house, or planted a vineyard, or betrothed a wife, or is afraid of his flesh; but the narrow bigot, filled with *sectarian* malice (if such there be) who hates *Quakers* more than he loves his country, his friends, his wife or family, may say, *I won't engage, for I don't like the act;* or, *I don't like the officers that are chosen;* or, *I don't like the articles of war;* and so we shall not be troubled with them, but all that engage will be hearty.

Z. For my part, I am no coward, but hang me if I'll fight to save the *Quakers*.

X. That is to say, you won't pump ship, because 'twill save the rats, as well as yourself.

Y. You have answered most of the objections I have heard against the act to my satisfaction; but there is one remaining. The method of carrying it into execution seems so roundabout, I am afraid we cannot have the benefit of it in any reasonable time.

X. I cannot see much in that objection. The several neighbourhoods out of which companies are formed, may meet and chuse their company officers in one and the same day; and the regiments may be formed, and field-officers chosen, in a week or ten days after, who may immediately proceed to consider the several militia laws of *Britain* and the colonies, and, (with the governor,) form out of them such articles, as will appear most suitable for the freemen of this province, who incline to bear arms voluntarily; and the whole may be in order in a month from the first elections, if common diligence be used. — And indeed, as the colonies are at present the prize contended for between *Britain* and *France*, and the latter, by the last advices, seems to be meditating some grand blow, part of which may probably fall on *Pensylvania*, either by land or sea, or both, it behoves us, I think, to make the best use we can of this act, and carry it immediately into execution, both in town and country. If there are any material defects in it, experience will best discover them, and show what is proper or necessary to amend them. The approaching winter will afford us some time to arm and prepare, and more leisure, than other seasons, for exercising and improving in good discipline.

Z. But if this act should be carried into execution, prove a good one, and answer the end, what shall we have to say against the *Quakers* at the next election?

X. O my friends, let us on this occasion cast from us all these little party views, and consider ourselves as *Englishmen* and *Pensylvanians*. Let us think only of the service of our king, the honour and safety of our country, and vengeance on its murdering enemies. If good be done, what imports it by whom 'tis done? The glory of serving and saving others is superior to the advantage of being served or secured. Let us resolutely and generously unite in our country's cause, (in which to die is the sweetest of all deaths) and may the God of armies bless our honest endeavours.

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209. TO MRS. DEBORAH FRANKLIN (A. P. S.)

Easton, Saturday Night, Dec. 27, 1755.

My dear Child,

I receiv'd yours of the 24th with Pleasure which acquainted me of your and the Family's Welfare. I am glad to hear, that the Companies are forming in Town and chusing their Officers, and hope the Example will be followed throughout the Country. We all continue well, but much harass'd with Business; after many Difficulties and Disappointments we march'd two Companies yesterday over the Mountains, viz, Aston's and Trump's. We wait here only for Shoes, Arms, and Blankets, expected hourly, and then shall move towards Berks County. Our Compliments to Mrs. Masters and all enquiring Friends. When you write next, direct to Mr. Read's Care at Reading. My Duty to Mother, and Love to the Children. I hope to find you all well at my Return. My Love to Mr. Hall; we have no fresh News here of Mischief, to be depended on. Send the Newspapers, and my Letters to Reading; and let me have all the little

News about the X Y Z Proceedings, Officers, &c. I am oblig'd to Goody Smith for kindly remembring me. My Love to her. I am, with great Affection, your loving Husband,

B. FRANKLIN.

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210. TO CAPTAIN VANETTA (L. L.)

At Bethlehem in the County
of Northampton January 12, 1756

To Capt. Vanetta of the
Township of upper Smithfield —

SIR,

1. You are to proceed immediately to raise a Company of Foot, consisting of 30 able Men, including two Serjeants, with which you are to protect the Inhabitants of upper Smithfield assisting them while they thresh out and secure their Corn, and scouting from time to time as you judge necessary on the outside of the Settlements, with such of the Inhabitants as may join you, to discover the Enemy's Approaches, and repel their Attacks. —

2. For the better Security of the Inhabitants of that District, you are to post your Men as follows, Eight at your own House, Eight at Lieutenant Henshaw's, Six with a Serjeant at Tishhoch —, and Six with another Serjeant at or near Henry Cortracht's, and you are to settle Signals or Means of suddenly Alarming the Inhabitants and convening your whole Strength, with the Militia of the District, on any necessary Occasion.

3. Every Man is to be engag'd for one month, and as the Province cannot at present furnish Arms or Blankets to your Company, you are to allow every Man enlisting,

and bringing his own Arms & Blankets, a Dollar for the Use thereof over and above his Pay. —

4. You are to furnish your Men with Provisions not exceeding the Allowance mentioned in the Paper herewith given you, and your reasonable accounts for the same shall be allowed and paid. —

5. You are to keep a Diary or Journal of every Day's Transactions, and an exact Account of the Time when each Man enters himself with you, and if any Man desert or die, you are to note the Time in your Journal, and the Time of engaging a new Man in his place, and submit your Journal to the inspection of the Governor when required.

6. You are to acquaint the Men, that if in their Ranging they meet with or are at any Time Attack'd by the Enemy, and kill any of them, Forty Dollars will be allow'd and paid by the Government for each Scalp of an Indian Enemy so killed, the same being produced with proper Attestations.

7. You are to take care that your Stores and Provisions are not wasted.

8. If by any Means you gain Intelligence of the Designs of the Enemy, or the March of any of their Parties towards any part of the Frontier, you are to send Advice thereof to the Governor and to the other Companies in the Neighborhood, as the Occasion may require.

9. You are to keep good Order among your Men, and prevent Drunkenness and other Immoralities, as much as may be, and not suffer them to do any Injury to the Inhabitants whom they come to protect.

10. You are to take Care that the Men keep their Arms clean and in good Order, and that their Powder be always kept dry and fit for Use.

11. You are to make up your Muster Roll at the Month's End, in order to receive the Pay of your Company, and to make Oath to the Truth thereof before a Justice of the Peace, and then transmit the same to the Governor.

B. FRANKLIN.

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211. TO MRS. DEBORAH FRANKLIN (A. P. S.)

Bethlehem, Jan. 15, 1756.

MY DEAR CHILD,

We move this Day for Gnadenhutten. If you have not Cash sufficient, call upon Mr. Moore, the Treasurer, with that Order of the Assembly, and desire him to pay you 100£ of it. If he has not Cash in hand, Mr. Norris (to whom my Respects) will advance it for him. We shall have with us, about 130 Men, and shall endeavour to act cautiously, so as to give the Enemy no Advantage thro' our Negligence. Make yourself therefore easy. Give my hearty Love to all Friends. I hope in a Fortnight or three Weeks, God willing, to see the intended Line of Forts finished, and then shall make a Trip to Philadelphia, and send away the Lottery Tickets, and pay off the Prizes, etc, tho' you may pay such as come to hand of those sold in Philadelphia, of my signing. They were but few, the most being sold abroad; and those that sold them and receiv'd the Money will pay off the Prizes. I hope you have paid Mrs. Stephens for the Bills. I am, my dear Child, your loving Husband,

B. FRANKLIN.

212. TO MRS. DEBORAH FRANKLIN[1]

Gnadenhutten, January 25, 1756.

My dear Child,

This day week we arrived here. I wrote to you the same day, and once since. We all continue well, thanks be to God. We have been hindered with bad weather, yet our fort is in a good defensible condition, and we have every day more convenient living. Two more are to be built, one on each side of this, at about fifteen miles' distance. I hope both will be done in a week or ten days, and then I purpose to bend my course homewards.

We have enjoyed your roast beef, and this day began on the roast veal. All agree that they are both the best that ever were of the kind. Your citizens, that have their dinners hot and hot, know nothing of good eating. We find it in much greater perfection when the kitchen is four score miles from the dining room.

The apples are extremely welcome, and do bravely to eat after our salt pork; the minced pies are not yet come to hand, but I suppose we shall find them among the things expected up from Bethlehem on Tuesday; the capillaire[2] is excellent, but none of us having taken cold as yet, we have only tasted it.

As to our lodging, it is on deal featherbeds, in warm blankets, and much more comfortable than when we lodged at our inn, the first night after we left home; for the woman being about to put very damp sheets on the bed, we desired her to air them first; half an hour afterwards, she told us the bed was ready, and the sheets *well aired*. I got into bed, but jumped out immediately, finding them as cold as death, and partly frozen. She had *aired* them indeed, but it was out upon the hedge. I was forced to wrap myself up in my great coat and woollen trowsers. Every thing else about the bed was shockingly dirty.

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[1] From "The Works of Dr. Benjamin Franklin," 1817, Vol. VI, p. 8. — Ed.

[2] A syrup flavoured with orange flower water. — Ed.

As I hope in a little time to be with you and my family, and chat things over, I now only add, that I am, dear Debby, your affectionate husband,

B. FRANKLIN.

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213. TO ROBERT HUNTER MORRIS, GOVERNOR OF PENNSYLVANIA

Fort Allen, at Gnadenhutten, January 26, 1756.

SIR,

We left Bethlehem, the 16th instant, with Foulke's company forty-six men, the detachment of M^c^Laughlin's twenty, and seven wagons laden with stores and provisions. We got that night to Hays's quarters, where Wayne's company joined us from Nazareth. The next day we marched cautiously through the gap of the mountain, a very dangerous pass, and got to Uplinger's, twenty-one miles from Bethlehem, the roads being bad, and the wagons moving slowly.

This present Monday we are erecting a third house in the fort to accommodate the garrison. As soon as Captain Hays returns with the convoy of stores and provisions, which I hope may be to-morrow, I purpose to send Arndt and Hays to join Captain Trump in erecting the middle fort there, purposing to remain here between them and Foulke, ready to assist and supply both, as occasion may require; and I hope in a week or ten days, weather favouring, that those two forts may be finished, the line of forts completed and garrisoned, the rangers in motion, and the intermediate guards and watches disbanded, unless they are permitted and encouraged to go after the enemy to the Susquehanna.

At present the expense in this county is prodigious. We have on foot and in pay the following companies, viz. Trump's, consisting of fifty men; Aston's, fifty; Wayne's, fifty-five; Foulke's, forty-six; Trexler's, forty-eight; and Wetherhold's, forty-four, without the Fork; Arndt's, fifty; Craig's, thirty; and Martin's, thirty, in the Irish settlements; Van Elten's, thirty, at Minisink; Hays's, forty-five; detachment of M^c^Laughlin's, twenty; Parsons's, twenty-four, at Easton; total, five hundred and twenty-two.

This, Sir, is a particular account of our transactions, and the present state of affairs in this county. I am glad to learn, by your favour of the 21st, just received, that you have thoughts of coming to Bethlehem, as I may hope for an opportunity of waiting upon your Honour there, after our works are finished, and of communicating every thing more fully, I now only add, that I am, with dutiful respect, Sir, &c.

B. FRANKLIN.

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214. TO MRS. DEBORAH FRANKLIN[1]

Fort Allen, at Gnadenhutten, January 30, 1756.

MY DEAR CHILD,

Every other day, since we have been here, it has rained, more or less, to our no small hindrance. It rained yesterday, and now again to day, which prevented our marching; so I will sit down half an hour to confer a little with you.

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[1] From "The Works of Dr. Benjamin Franklin," 1817, Vol. VI, p. 10. — ED.

All the things you sent me, from time to time, are safely come to hand, and our living grows every day more comfortable; yet there are many things we still want, but do not send for them, as we hope our stay here will not be long.

I thought to have wrote you a long letter, but here comes in a number of people, from different parts, that have business with me, and interrupt me; we have but one room, and that quite public; so I can only add, that I have just received yours, Sally's, and Grace's letters, of the 25th, with one from Mr. Hughes, and one from Mr. Thomson. Present my respects to those gentlemen (and excuse my not writing, as I have nothing material, and am much hurried), and love to all our friends and neighbours. Billy presents his duty to you, and love to his sister; all the gentlemen their compliments; they drink your health at every meal, having always something on the table to put them in mind of you.

I found, among the newspapers, Mr. Shoen's bills of exchange, which should not have been sent up here; I suppose it was by mistake, and mention it, that you need not be troubled to look more for them.

I am, dear girl, your loving husband,

B. Franklin.

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215. TO MRS. DEBORAH FRANKLIN[1]

Fort Allen, January 31, 1756.

My Dear,

I wrote a line to you yesterday, and, having this opportunity, write another, just to let you know, that we all continue well, and much the better for the refreshments you have sent us; in short, we do very well; for, though there are a great number of things, besides what we have, that used to seem necessary to comfortable living, yet we have learned to do without them.

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[1] From "The Works of Dr. Benjamin Franklin," 1817, Vol. VI, p. 11. — Ed.

Mr. Beatty is a very useful man here, and the Doctor another. Besides their services to the public, they are very agreeable companions to me. They, with Captain Clapham, Mr. Edmond, and the rest of our company, present their hearty respects to you for the *goodies*. Billy[1] presents his duty to you and his grandmother, and love to his sister. Distribute my compliments among our acquaintance, and hearty love to all friends. The bearer waits, so that I cannot write to my dear Sally. I am, dear girl, your loving husband,

B. FRANKLIN.

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216. TO MRS. JANE MECOM[2]

Philadelphia, February 12, 1756.

DEAR SISTER,

I condole with you on the loss of our dear brother.[3] As our number grows less, let us love one another proportionably more.

I am just returned from my military expedition, and now my time is taken up in the Assembly. Providence seems to require various duties of me. I know not what will be next; but I find, the more I seek for leisure and retirement from business, the more I am engaged in it. Benny, I understand, inclines to leave Antigua. He may be in the right. I have no objection. My love to brother and to your children. I am, dearest sister, your affectionate brother,

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[1] William Franklin, afterwards governor of New Jersey. — ED.

[2] From "A Collection of the Familiar Letters of Benjamin Franklin," Boston, 1833, p. 38. — ED.

[3] John Franklin, who died at Boston, in January, 1756, at the age of sixty-five. — ED.

B. FRANKLIN.

217. TO MISS E. HUBBARD[1]

Philadelphia, February 23, 1756.

—I condole with you. We have lost a most dear and valuable relation. But it is the will of God and nature, that these mortal bodies be laid aside, when the soul is to enter into real life. This is rather an embryo state, a preparation for living. A man is not completely born until he be dead. Why then should we grieve, that a new child is born among the immortals, a new member added to their happy society?

We are spirits. That bodies should be lent us, while they can afford us pleasure, assist us in acquiring knowledge, or in doing good to our fellow creatures, is a kind and benevolent act of God. When they become unfit for these purposes, and afford us pain instead of pleasure, instead of an aid become an incumbrance, and answer none of the intentions for which they were given, it is equally kind and benevolent, that a way is provided by which we may get rid of them. Death is that way. We ourselves, in some cases, prudently choose a partial death. A mangled painful limb, which cannot be restored, we willingly cut off. He who plucks out a tooth, parts with it freely, since the pain goes with it; and he, who quits the whole body, parts at once with all pains and possibilities of pains and diseases which it was liable to, or capable of making him suffer.

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[1] John Franklin married a second wife, by the name of Hubbard, a widow. Miss E. Hubbard, to whom this letter was addressed, was her daughter by a former marriage. This letter is printed from "A Collection of the Familiar Letters of Benjamin Franklin," Boston, 1833, p. 39. — ED.

Our friend and we were invited abroad on a party of pleasure, which is to last for ever. His chair was ready first, and he is gone before us. We could not all conveniently start together; and why should you and I be grieved at this, since we are soon to follow, and know where to find him? Adieu. B. FRANKLIN.

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218. TO TIMOTHY HORSEFIELD[1] (A. P. S.)

Philad^a. March 1. 56

DEAR SIR,

Orders are gone up to relieve Capt. Wayne's Company. I suppose he will apply here for his Pay.

Capt. Arndt should make out his Muster Roll on Oath, & send his Journal &c. according to the Instructions given him, before he demands his Pay. However you may pay him Fifty Pounds in part; and let him know, that the Remainder will be paid when the Commissioners have his Muster Roll laid before them.

It is not worth while to send up a Waggon with a Cag of Rum to M^r Parsons. If he had bought some on Acct of the Province he need not have doubted its being allow'd in his Acc^t. —

My Respects to good M^rs Horsfield, &c I am, with much Esteem D Sir,

Your most obedt Servt.

B. FRANKLIN

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[1] From the "Tim^y Horsefield's Papers," p. 105.

Please to pay Nicholas Oplinger Fifteen Pounds Nine Shillings & Eight pence half penny and take his Receipt in full to the 20th of February past.

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219. TO MRS. DEBORAH FRANKLIN (A. P. S.)

Frederictown, [Virginia,] March 21, 1756. Sunday.

MY DEAR CHILD,

We got here yesterday Afternoon, and purpose sailing to-day, if the Wind be fair. Peter was taken ill with a Fever and Pain in his Side before I got to Newcastle. I had him blooded there, and put him into the Chair wrapt up warm, as he could not bear the Motion of the Horse, and got him here pretty comfortably. He went immediately to bed, and took some Camomile Tea, and this Morning is about again and almost well. I leave my Horses at Mr. Milliken's, a Gentleman that lives on Bohemia River.

Among the Government Orders I left with you, are two written ones drawn on Mr. Charles Norris for considerable Sums. You did not tell me, when I ask'd you, what Money you had in hand; if you want before my Return, present one of those Orders to Mr. Norris, and he will pay the whole or a Part, as you have Occasion. Billy will also pay you some Money, which I did not care to take with me from Newcastle. Be careful of your Accounts, particularly about the Lottery Affairs. My Duty to Mother, and love to Sally, Debby, Gracey, &c., not forgetting the Goodey. Desire Dr. Bond to send me some of those Pills by Post. I forgot to take any with me. Let Mr. Parker know I rec'd the Money he sent me, on the Post-Office and Money-Paper

Accounts. I forgot to write it to him, tho' I fully intended it. If there is Peace I shall probably not come home so soon as I purposed to do, in case the Ships from England bring a Declaration of War, or in case the Uncertainty continues. I am, my dear Child, your loving Husband,

B. FRANKLIN.

220. TO MRS. DEBORAH FRANKLIN[1] (A. P. S.)

Williamsburg, March 30. 1756.

MY DEAR CHILD,

I wrote to you *viâ* New York the Day after my Arrival, acquainting you that I had a fine Journey and Passage down the Bay, being but four Days from Philadelphia to Col. Hunter's, tho' stopt near a Day on the Road. I have been well ever since, quite clear of the Dizziness I complain'd of, and as gay as a Bird, not beginning yet to long for home, the Worry of perpetual Business being yet fresh in my Memory. Mr. Hunter is much better than I expected to find him, and we are daily employ'd in settling our Affairs. About the End of the Week we are to take a Tour into the Country. Virginia is a pleasant Country, now in full Spring; the People extreamly obliging and polite. I return in the Man-of-War to New York with Col. Hunter and his Lady; at least this is propos'd; but if a more convenient Opportunity offers, perhaps I may not stay so long as the End of next Month, when that Ship is to sail. Present my Duty to Mother, Love to Billy, Sally and the rest, not forgetting that Goody.

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[1] The business of the post-office seems to have been the object of this journey to Virginia. Franklin and Hunter were jointly postmasters-general of the colonies. — ED.

My respects to Mrs. Masters and all the Officers and in short to all Philadelphia. Mr. Hunter presents his compliments. I am, my dear Debby, your loving Husband,

B. FRANKLIN

221. TO MRS. JANE MECOM[1]

New York, June 28, 1756.

DEAR SISTER,

I received here your letter of extravagant thanks, which put me in mind of the story of the member of Parliament, who began one of his speeches with saying he thanked God that he was born and bred a Presbyterian; on which another took leave to observe, that the gentleman must needs be of a most grateful disposition, since he was thankful for such very small matters.

You desire me to tell you what I know about Benny's removal, and the reasons of it. Some time last year, when I returned from a long journey, I found a letter from him, which had been some time unanswered, and it was some considerable time afterwards, before I knew of an opportunity to send an answer. I should first have told you, that when I set him up at Antigua, he was to have the use of the printing-house on the same terms with his predecessor, Mr. Smith; that is, allowing me one third part of the profits. After this, finding him diligent and careful, for his encouragement, I relinquished that agreement, and let him know, that as you were removed into a dearer house, if he paid you yearly a certain sum, I forget what it was, towards discharging your rent, and another small sum to me, in sugar and rum for my family use, he need keep no farther accounts of the profits, but should enjoy all the rest himself. I cannot remember what the whole of both payments amounted to, but I think they did not exceed twenty pounds a year.

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[1] From "A Collection of the Familiar Letters of Benjamin Franklin," Boston, 1833, p. 40. — ED.

The truth is, I intended, from the first, to give him that printing-house; but as he was young and inexperienced in the world, I thought it best not to do it immediately, but to keep him a little dependent for a time, to check the flighty unsteadiness of temper, which, on several occasions, he had discovered; and what I received from him, I concluded to lay out in new letters (or types), that when I should give it to him entirely, it might be worth his acceptance; and if I should die first, I put it in my will, that the letters should be all new cast for him.

This proposal of paying you and me a certain annual sum did not please him; and he wrote to desire I would, explicitly tell him how long that annual payment was to continue; whether, on payment of that, all prior demands I had against him, for the arrears of our first agreement, were likewise cancelled; and finally insisted, that I would name a certain sum, that I would take for the printing-house, and allow him to pay it off in parts as he could, and then the yearly payments to cease; for, though he had a high esteem for me, yet he loved freedom, and his spirit could not bear dependence on any man, though he were the best man living.

This was the letter, which casually remained, as I said, so long unanswered; at which he took farther offence; and, before I could answer it, I received another from him, acquainting me that he had come to a resolution to remove from the Island; that his resolution was fixed, and nothing that could be said to him should move or shake it; and he proposed another person to me, to carry on the business in his room. This was immediately followed by another and a third letter, to the same purpose, all declaring the inflexibility of his determination to leave the Island, but without saying where he proposed to go, or what were his motives. So I wrote him, that I would not attempt to change his resolutions; that I made no objections to his quitting, but wished he had let me know where he was going; that, as to the person he recommended to succeed him, I had kept the office there after Mr. Smith's decease, in hopes it might be of use to him (Benny). I did not incline to be concerned with any other there. However, if the person would buy it, I named the price; if not, I directed it to be packed up and sent home. All I desired of him was to discharge what he owed to Mr. Strahan, bookseller in London, one of my friends, who had credited him on my recommendation.

By this post I received the enclosed letter, and understand the things are all arrived. I shall be very glad to hear he does better in another place, but I fear he will not for some years be cured of his fickleness, and get fixed to any purpose; however, we must hope for the best, as with this fault he has many good qualities and virtues.

My love to brother and children, and to all that love you. I am, dear sister, your affectionate brother.

B. FRANKLIN.

222. TO WILLIAM PARSONS[1] (A. P. S.)

New York, June 28, 1756.

Dear Friend,

I have received here your Favour of the 19th Instant, with a Copy of your Remarks in Reviewing the Forts, for which I am much obliged to you; and I hope the Governor and Commissioners will immediately take the necessary Measures to remedy every thing that you found amiss. I think you hazarded yourself with too small Escorts, and am glad you got safe through. It appears plainly, that it will be of great Use to review the Forts frequently. The Expence must be inconsiderable, compar'd to the Advantage and Security that may be deriv'd from it.

Great Part of two British Regiments are arriv'd here. The Men are all in Health, and look exceeding well. What will be undertaken this Summer is, I believe, unknown, or uncertain till the General's Arrival. Some of the Officers think this Year will be chiefly spent in Preparations for the next. Others imagine there will be an Accommodation. For my part I can make no Judgment. This only I can plainly see, that New York is growing immensely rich, by Money brought into it from all Quarters for the Pay and Subsistence of the Troops. General Shirley, it is said, is to go home in the same Ship, that brings Lord Loudoun, and to be made one of the Lords of Trade. The Indians continue to scalp now and then a Man, too close to Albany, Oswego, and the Camps. The New England Forces are not yet compleat. Those Colonies have overdone themselves, and undertaken too much, more than they are able to bear or perform.

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[1] Contained in the "Tim^y Horsefield Papers" (A. P. S.). — Ed.

With great Esteem, I am, Dear Friend, affectionately yours,
B. FRANKLIN.

223. TO WILLIAM STRAHAN[1] (P. C.)

New York, July 2, 1756.

DEAR SIR: — Being here I take this opportunity of the pacquet boat to write you a line, acknowledging the receipt of your favour of March 13th, and of the brevier fount, which is come to hand in good order, and pleases Mr. Hall and me very much. I am much indebted to you for your care in that matter, as well as many others. I think our account now stands thus:

Dr. B. Franklin to W. Strahan. Cr.

	£	s.	d.		£	s.	d.
1755.							
Oct. 3. To bal. of acct.				Mar. 13. By bill on			
to this day.	59	4	1½	Dr. Chandler.	109	8	4
1756.				Bal. due W. S.	11	10	9½
Mar. 13. To bill paid							
Mr. Voogdt.	2	17	6				
To fount of brevier	58	17	6				
	120	19	1½		120	19	1½

My nephew, B. Mecom, finding that the business did not answer to his mind in Antigua, has determined to quit the place, and has accordingly sent home to me the press and letters. He writes me that he has lately sent you a bill for £100 sterling, and being now employed only in collecting his debts, he hopes soon to send you a bill for the balance of your account, about £50 more. As the £20 bill you received of me in November, 1753, was only lent to his account, and he will now pay his whole balance without reckoning that £20; you will please take it back to my account when he has settled and paid off his; whereby a balance will remain in my favour. But, in the meantime lest that should not be so soon done as he proposes, that you may not be longer in advance for me, I enclose a little bill on Mr. Collinson, for £11 10s. 9½d., the balance due to you, but desire you would not forget to take back the £20 into your hands for me, when you settle finally with B. Mecom, who writes that he proposes going for England this present July.

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[1] From John Bigelow, "The Complete Works of Benjamin Franklin," Vol. X, p. 276. — ED.

You judge rightly that my many employments and journeys of late have prevented my carrying into execution the proposed scheme of circulating your magazine. But I think now to write to the post-master as soon as I can get home, and order the advertisements into the papers. With the greatest respect and esteem, I am, dear sir, your obliged and most obedient servant,

B. FRANKLIN.

224. TO REV. GEORGE WHITEFIELD [1]

New York, July 2, 1756.

DEAR SIR:

I received your Favour of the 24th of February with great Pleasure, as it inform'd me of your Welfare, and express'd your continu'd Regard for me. I thank you for the Pamphlet you enclos'd to me. As we had just observ'd a Provincial Fast on the same Occasion, I thought it very seasonable to be publish'd in Pennsylvania, and accordingly reprinted it immediately.

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[1] Printed from a facsimile. — ED.

You mention your frequent wish that you were a Chaplain to an American Army. I sometimes wish that you and I were jointly employ'd by the Crown, to settle a Colony on the Ohio. I imagine we could do it effectually, and without putting the Nation to much expence. But I fear we shall never be called upon for such a Service. What a glorious Thing it would be, to settle in that fine Country a large strong Body of Religious and Industrious People! What a Security to the other Colonies; and Advantage to Britain, by Increasing her People, Territory, Strength and Commerce. Might it not greatly facilitate the Introduction of pure Religion among the Heathen, if we could, by such a Colony, show them a better Sample of Christians than they commonly see in our Indian Traders, the most vicious and abandoned Wretches of our Nation? . . . Life, like a dramatic Piece, should not only be conducted with Regularity, but methinks it should finish handsomely. Being now in the last Act, I begin to cast about for something fit to end with. Or if mine be more properly compar'd to an Epigram, as some of its few Lines are but barely tolerable, I am very desirous of concluding with a bright Point. In such an Enterprise I could spend the Remainder of Life with Pleasure; and I firmly believe God would bless us with Success, if we undertook it with a sincere Regard to his Honour, the Service of our gracious King, and (which is the same thing) the Publick Good.

I thank you cordially for your generous Benefaction to the German School. They go on pretty well, and will do better, when Mr. Smith, who has at present the principal Care of them, shall learn to mind Party-writing and Party Politicks less, and his proper Business more; which I hope time will bring about.

I thank you for your good Wishes and Prayers, and am, with the greatest Esteem and Affection, Dear Sir

Your most obedient
humble Servant
B. FRANKLIN.

My best Respects to
Mrs. Whitefield

225. TO WILLIAM STRAHAN[1] (P. C.)

New York, July 27, 1756

DEAR SIR: — The above is a copy of my last.[2] Since which I have received from Philadelphia one of our newspapers, printed on the new letter you sent us, and find that it is not a brevier body, but larger, and is really and truly no other than the burgeois, No. 1 of Caslon's specimen now lying before me, which burgeois is marked by a pen with his own hand, Price 2s. So that the charging it as brevier at 2s. 6d. is an imposition of twenty-five per cent., which is too much to bear, and, therefore, I do insist on his doing me justice, and refunding the additional six-pences; or he will forfeit the character he always bore with me, that of an honest man. I enclose you a piece of the newspaper for your satisfaction. Compare it with his specimen, and you will find what I say precisely true. The sum to be returned is £11

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[1] From John Bigelow, "The Complete Works of Benjamin Franklin," Vol. X, p. 278. — ED.

[2] See letter to William Strahan, July 2, 1756. — ED.

15s. 6d., for which when received please give to my account credit.

Lord Loudon arrived last week. I have had the honour of several conferences with him on our American affairs, and am extremely pleased with him. I think there cannot be a fitter person for the service he is engaged in.

I propose to return to-morrow to Philadelphia, where I hope things will soon be on a better footing, as we expect a new governor, of whom we hear a good character.

My best compliments to Mrs. Strahan and your children. I am, dear friend, yours affectionately,

B. FRANKLIN.

P. S. Since my last I have a letter from B. Mecom, who writes that he has sent you a £60 bill. I send a whole newspaper instead of a piece mentioned above, as there is some news in it.

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226. TO THOMAS POWNALL[1]

Philadelphia, August 19, 1756.

SIR,

I have done myself the honour to write you twice since my return, relating to the proposed road; but have as yet had no line from you.

Enclosed I send you a copy of the late treaty, or conference, at Easton, with a letter from Bishop Spangenberg to Mr. Norris, by which you will see nothing is likely to come of the treaty. The Indians are preparing to continue the war, and we see of how little consequence Sir William Johnson's treaty has been in our behalf. For my own part, I make no doubt but the Six Nations have privily encouraged these Indians to fall upon us. They have taken no step to defend us, as their allies, nor to prevent the mischief done us. I look upon the application made through Sir William Johnson to these nations to procure us peace, as the most unfortunate step we ever took; for we tied up the hands of our people, till we heard the result of that application. The affair was drawn out to great length of time, and in the mean while our frontier people were continually butchered, and at last either dispersed or dispirited. In short, I do not believe we shall ever have a firm peace with the Indians, till we have well drubbed them.

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[1] Thomas Pownall (1722–1805), commonly called Governor Pownall, came to America in 1753 as private secretary to Sir Danvers Osborn, governor of New York. In 1757 he succeeded General Shirley as governor of Massachusetts. He was a member of Parliament from 1768 to 1780, and opposed with much boldness and ability the ministerial measures against the colonies. — ED.

Our frontiers are greatly distressed, as you will see by the enclosed letters. The people are also distressed by the enlisting of their servants; but, if Lord Loudoun would order the recruits, now near five hundred, to march up and take post on the frontiers, in the forts there, where they would find good barracks, and might be of great use to the inhabitants, it would be a most acceptable thing to the whole province. In this Mr. Norris joins with me, as well as in compliments to his Lordship and yourself.

The Assembly are met, and in a very good disposition toward the service; but, the new governor being hourly expected, nothing can be done till his arrival. He is, we hear, on the road from York. I am, Sir, &c.

B. FRANKLIN.

227. TO GEORGE WASHINGTON

Philadelphia, August 19, 1756.

Sir,

I have your favours of July 23d and August 3d, but that you mention to have wrote by Mr. Balfour is not come to hand. I forwarded the packet enclosed in that of July 23d, as directed, and shall readily take care of any other letters from you, that pass through my hands. The post, between this place and Winchester, was established for the accommodation of the army chiefly, by a vote of our Assembly. They are not willing to continue the charge, and it must, I believe, be dropped, unless your Assembly and that of Maryland will contribute to support it, which, perhaps, is scarce to be expected.

I am sorry it should be laid down, as I shall myself be a loser in the affair of newspapers. But the letters per post by no means defray the expense. If you can prevail with your Assembly to pay the rider from Winchester to Carlisle, I will endeavour to persuade ours to continue paying the rider from Carlisle hither. My agreement with the house was, to carry all public despatches gratis, to keep account of postage received for private letters, and charge the expense of riders and offices; and they were to pay the balance. I am, Sir, with great esteem and respect, &c.

B. Franklin.

P. S. We have just received news, that the Delaware Indians, with whom we treated lately at Easton, have burnt the goods they received as presents, and resolved to continue the war.

228. TO CATHERINE RAY[1] (P. C.)

Philad^a Aug. 26, 1756.

I RECEIV'D your very agreeable Line of the 2d Inst. in which you tell me you would write me a long Letter, but that you expect soon to see me in Boston. I know not now when I shall enjoy that Pleasure, being more involved in publick Affairs than ever: so that I cannot be so long out of the Province as such a Journey requires; therefore, dear Girl, write me *all* your little News, for it is extremely entertaining to me —

Your Apology for being in Boston, "*that you must visit that Sister once a year*" makes me suspect you are here for some other Reason; for why should you think your being there would need an Excuse to me when you knew that I knew how dearly you lov'd that Sister? Don't offer to hide your Heart from me. You know I can conjure. — Give my best respects to y^r Sister, & tell her and all your other Sisters and Brothers, that they must behave very kindly to you, & love you dearly; or else I'll send a young Gentleman to steal & run away with you, who shall bring you to a Country from whence they shall never hear a word of you, without paying Postage. — Mrs. Franklin joins in Love to you & sincere wishes for your welfare, with dear good Girl,

Your affectionate Friend

B. FRANKLIN.

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[1] From the original in the possession of Mrs. Roelker. — ED.

229. TO PETER COLLINSON[1] (P. C.)

Nov. 5. 1756

DEAR FRIEND

The above is a Copy of my last, and I now send the two second Bills of Steevens and Ludwell. I wrote them in great Hurry being just setting out for the Frontiers to visit some of the Forts with the Governor, a long Journey. Since our Return, I have scarce had a Moment's Time to write to my Friends, the Assembly sitting twice a day, and twice a Day the Commission for laying out the last given £30,000 besides continually, when at home, hearing People who have Business to lay before the Assembly or Commissioners. And now I am just ordered by the House to attend the Governor at Easton in Northampton County, on a Treaty with the Delaware Indians. We set out immediately, so must entreat your Excuse if I do not write fully.

I have before me your several Favours of May 27. June 3. June 4 and 30. and July 9. The Quakers have now pretty generally declined their Seats in Assembly, very few remaining. We shall soon see if Matters will be better managed by a Majority of different religious Persuasions. The Governor tells me, that you recommended me to him very warmly, for which accept my grateful Acknowledgements. We have, I think, a very good Understanding with each other. He was pleased to offer me any Service in his Power. My Answer was that I had at present no Favour to ask; that I was nevertheless oblig'd to him for his frank Offers of Friendship; would always be ready to do him any honest Service, requesting only in Return his good Will and Good Opinion.

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[1] From the private collection of Mr. J. Pierpont Morgan. — ED.

Your Information of my being chosen a Member of the Royal Society, was extreamly agreable, and the more, as I had not the least Expectation of ever arriving at that Honour.

The Diploma you mention, is not yet come to hand. I must request the Favour of you to present my humble Thanks to the Society whose truly noble Designs I wish I may be able in any Degree to promote. Please to pay for me the Yearly and other Charges that arise on such Occasions, out of any Money of mine in your Hands. Of late I have said nothing to you on Philosophical Subjects, for I fear I overdos'd you with my last Pacquet from Boston. I had lately a Letter from Paullus Frisi[1] of St. Alexander's College at Milan, who writes to me as if I liv'd in London, and desires me to mention a Matter to Mr. Short,[2] which I can only do by transcribing that Part of the Letter, and desiring you to show it to the Gentleman; viz. "Optarem etiam, ut Cl. Short reverentiam meam et gratum animum testeris, quodque occasione data animadversiones meas circa controversum illum Newtone errorem judicio ipsius submittam."

I deliver'd the Letter inclos'd in yours of June 3. to Smith. But your former Letter relating to his Freemason Sermon he never had as I suppose; for I receiv'd it when abroad, and left it with some other Papers, that I hoped to recover, but have not.

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[1] L'abbé Paul Frisi (1728–1784) left Milan about the time this letter was written to enter upon the duties of a professorship in the University of Pisa, an appointment for which he was indebted to the Grand Duke of Tuscany. — Ed.

[2] James Short (1710–1768), optician. — Ed.

And he and I not being on speaking Terms, I have said nothing to him about it. He has scribbled himself into universal Dislike here; The Proprietary Faction alone countenances him a little; but the Academy dwindles, and will come to nothing if he is continued.

I am sorry we have no good News in this Part of the World to ballance your Loss of Minorca. Oswego is taken and a fine New England Army collected at Lake George, is, thro' Inaction wasted by Sickness and Desertion, so as to be at present of little Strength or Value, and I am affraid those governments will be unable to produce such another for the next Campaign.

These Northern Colonies have a vast Frontier to defend, and the Expence is excessive. Much less Money would defray an Expedition by Sea against Quebec: That, in my Opinion, will be our most effectual Defence and much the cheapest.

Rankin is not yet arriv'd, on board whome you have put the Air Pump etc. The Invoice I have receiv'd per last Ship.

You write that "you hear I ride about with a Party of Men with drawn Swords, which gives great Offense to some Folks."

I wonder who could think it worth while to send such trifling News to England, or how it has been reprinted so as to give Offence.

I must tell you the Matter as it was. The People happen to love me. Perhaps that's my Fault. When I was on the Frontier last Winter, a great number of the Citizens, as I was told, intended to come out and meet me at my Return to express their thankful Sense of my (small) Services. To prevent this, I made a forc'd March and got to Town in the Night, by which they were disappointed, and some a little chagrined. But as I could not fully conceal the Time of my setting out for Virginia 20 Officers of my Regiment with about 30 Grenadiers, presented themselves on Horseback at my Door just as I was going to mount, to accompany me to the Ferry about 3 Miles from Town. 'Till we got to the end of the Street which is about 200 Yards, the Grenadiers took it in their Heads to ride with their Swords drawn, but then they put them up peaceably unto their Scabbards, without hurting or even terrifying Man, Woman, or Child: and from the Ferry where we took leave and parted, they all returned as quietly to their Homes. This was the only Instance of the Kind; for tho' a greater Number met me at my Return, they did not ride with drawn Swords, having been told that Ceremony was improper, unless to compliment some Person of great Distinction.

I who am totally ignorant of Military Ceremonies, and above all things averse to making Show and Parade, or doing any useless Thing that can serve only to excite Envy or provoke Malice suffer'd at the Time much more Pain than I enjoy'd Pleasure and have never since given an Opportunity for anything of the Sort.

The Proprietors you write me word, are greatly incensed at some Part of my late Conduct. I am not much concern'd at that, because if I have offended them *by acting right*, I can, whenever I please, reverse their Displeasure *by acting wrong*. Tho' at present I have not the least Inclination to be in their good Graces on those Terms. I have some natural Dislike to Persons who so far *love Money* as to be *unjust* for its sake: I despise their *Meanness* (as it appears to me) in several late Instances, most cordially, and am thankful that I never had any Connection with them, or Occasion to ask or receive a Favour at their hands. For now I am persuaded that I do not oppose their Views from Pique, Disappointment, or personal Resentment, but, as I think, from a Regard to the Publick good. I may be mistaken in what is that Publick Good; but at least I mean well. And whenever they appear to me to have the Publick Good in View, I think I would as readily serve them as if they were my best Friends. I am sometimes asham'd for them, when I see them differing with their People for Trifles, and instead of being ador'd as they might be, like Demi Gods, become the Objects of universal Hatred and Contempt. How must they have managed when with all the Power their Charter, the Laws and their Wealth gives them, a private Person (forgive your Friend a little Vanity, as it's only between ourselves) can do more Good in their Country than they, because he has the Affections and Confidence of their People, and of course some Command of the People's Purses. You are ready now to tell me, that Popular Favour is a most uncertain Thing. You are right. I blush at having valued myself so much upon it. I have done.

Adieu my dear Friend, and enjoy forever the Esteem of all the Good and Worthy, as well as the sincere Affection of

Your obedient humble Servant

B. FRANKLIN.

Inclos'd is a little Memorandum of some Musick and Harpsichord Wire which I want for a Friend. If not too much out of your way please to send it.

I did not think I should write so long a Letter. There is too much in it about myself. I must mend that Fault in my next, but I cannot now correct it in this.

230. TO MRS. DEBORAH FRANKLIN[1]

Easton, November 13, 1756.

My Dear Child,

I wrote to you a few days since by a special messenger, and enclosed letters for all our wives and sweethearts; expecting to hear from you by his return, and to have the northern newspapers and English letters per the packet; but he is just now returned without a scrap for poor us. So I had a good mind not to write to you by this opportunity; but I never can be ill natured enough even when there is the most occasion. The messenger says he left the letters at your house, and saw you afterwards at Mr. Duché's, and told you when he would go, and that he lodged at Honey's, next door to you, and yet you did not write; so let Goody Smith give one more just judgment, and say what should be done to you. I think I won't tell you that we are well, nor that we expect to return about the middle of the week, nor will I send you a word of news; that 's poz.

My duty to mother, love to the children, and to Miss Betsey and Gracy, &c. &c. I am your *loving* husband,

B. Franklin.

P. S. I have *scratched out the loving words*, being writ in haste by mistake, when I *forgot I was angry*.

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[1] From "The Works of Dr. Benjamin Franklin," 1817, Vol. VI, p. 14.—Ed.

231. TO PETER COLLINSON[1] (P. C.)

Philad^{a} Nov. 22. 1756

DEAR FRIEND

Since mine of the 5th Instant, a long one, per Capt. Snead, I have receiv'd the Air Pump and Apparatus per Rankin. There is some Breakage of which shall send an Acc^{t}. per next Ship, to have the glasses renew'd. We are exceedingly oblig'd to you for your Care in the Affair and return you cordial Thanks.

I am just return'd from the Forks of Delaware where I with some others attended the Governor, at a Conference with the Indians. They complain of Injuries from the Proprietor. I hope he will give timely Orders to redress them when they come down next Spring. It is said by many here that the Delawares were grosly abus'd in the Walking Purchase; that they have frequently complain'd, and their Complaints were suppress'd or conceal'd, and the 6 Nations set on their Backs to make them quiet. That they have remember'd these Things and now, by the Connivance of the 6 Nations, as 'tis thought, and supported by the French, they have taken Revenge. Much has the Province suffer'd by this War; some Hundreds of Lives lost, many Farms destroy'd, and near £100,000 spent, yet the Proprietor refuses to be taxed except for a trifling Part of his Estate; the Quitrents, located unimprov'd Lands, Money at Interest etc, etc, being exempted by Instructions to the Governor. Which is the harder, if by his Ill-Treatment of the Indians the War has in any Degree been occasioned.

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[1] From the private collection of Mr. J. Pierpont Morgan. — ED.

The 49th. Vol. of the Transactions, and other Books for the Library, sent in the Care of Neate and Neave, are come to hand in good Order. In my Paper of Experiments in the Transactions are the following Errata, viz

Page 301 line 12 for *elastic* read *electric.*

Page 301 line 18 for *but nigh enough* read *but not nigh enough.* As they hurt the Sense, I mention them; some smaller of less moment I omit. I should be glad to know if the very ingenious Mr. Canton has repeated those Experiments, and what are his Observations.

I thank Dr. Wright for his Piece on Thunder.

Mr. Ecles's Experiments do not succeed with me. I wish you had sent me Dr. Hoadly's and Mr. Wilson's Experiments on the Leyden Bottle. I see such a Piece advertis'd but it is not come over.

I am, my dear Friend,
Yours affectionately
B. FRANKLIN.

232. TO PETER COLLINSON[1] (P. C.)

Philada Dec. 19. 1756

DEAR FRIEND

I have now the Pleasure of yours of the 7th and 10th of September, and have received the Old Book of Voyages, the Magazines for August and Messrs. Hoadley and Wilson on Electricity.

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[1] From the private collection of Mr. J. Pierpont Morgan. — ED.

We have hitherto preserved a good Agreement with our new Governor; tho' it seems that some Evil Counsellors about him would fain get him into a Quarrel with us; but I hope it will be prevented.

Smith continues still in the Academy; but I imagine will not much longer, unless he mends his Manners greatly, for the Schools decline on his Account. The Number of Scholars, at present, that pay, not exceeding 118, tho' they formerly were 200. The Air Pump, etc. turn'd out agreable to Invoice, except, that the stopcock Handle of one of the brass Hemispheres was wanting, and the 6 lbs. of Quicksilver. These should be sent per the first Opportunity, together with Glasses instead of those which were broken, viz, the largest Receiver, the large Globe for weighing Air. The slender Barometric Tube; and the largest of the 3 Cylinders for holding Water in the Fountain Experiment. It would not be amiss to send 3 or 4 Barometer Tubes, such slender Things being very apt to break.

And if the large Glass Vessels are not pack'd in separate Boxes, at least there should be Partitions in the Cases they are pack'd in. Since your Workmen are, by your Accounts, as dilatory as they are ingenious, I begin to be much concern'd for the great Trouble we have given you in these Affairs.

I thank you for so readily paying my Drafts in favour of Mr. Strahan and the Society for Encouragement of Arts. The Society sets out on Noble Principles, and I hope they may be highly useful to the Whole British Dominions and to Mankind.

I am exceedingly obliged to Dr. Wright for the Regard he expressed for me in his Letter, to you from Brussels, and for his ingenious little Piece on Thunder. Pray return him my hearty Thanks.

Your honorable Friend's Observation on what I wrote concerning our Militia Law I don't well understand, perhaps because you have not sent the whole. If he doubted the Truth of what I said of the Numbers learning Military Discipline under that Law, I send you enclos'd the printed Account or List of the Companies, drawn from Secretary Peters's Acc^{t}. of Charge for issuing Commissions to the general Officers. The Companies consisted, one with another, of at least 100 Men each, and several Companies were added to the Militia after that List was printed. If by "the ill Things he had lately heard from Pensilvania" he meant some Mischief done by the Indians, and therefore could not imagine we were in a better Posture of Defence, let me acquaint you, that if every Man in the Country was a veteran Soldier, our Sparse Manner of settling on so extended a Frontier, would still subject us to Mischiefs from the Depredations of such an Enemy as the Indians are, who do everything by Surprize, and lurk about for Opportunities of attacking single Houses, and small weak Neighborhoods. But all that Pensilvania has suffer'd is charg'd to the Account of our not having a good Militia Law; tho' Virginia that has such a Law has suffer'd *more*, and New York with such a Law and all the King's and New England Forces to assist her, has not been free from Scalping, besides losing Oswego. One might as justly charge to your Want of a good Militia Law in England, the Highway Robberies and Housebreakings which sometimes fill your Newspapers; and even blame your regular Forces for not preventing them. We have now near 1500 Men on our Frontier, and yet People are sometimes scalp'd between Fort and Fort, and very near the Forts themselves. And if these Soldiers who have Arms continually in their Hands cannot always secure themselves why should the Mischiefs done to the Farmers occasion a Doubt of the Truth of what I told you of our People's learning military Discipline under our Militia Law. For the Militia cannot be always under Arms, the Land must be till'd, and Business follow'd; Every House and Plantation cannot be guarded, and on the Frontiers they are Miles distant, and so can afford little Aid to one another; — Those Men posted on the Frontier are not the Militia, but what we call our *Provincial Troops*, being regularly inlisted to serve for a Term, and in the Pay of the Province; and do nothing but bear Arms like your Regulars. The *Militia* follow their respective Callings at home, muster only on certain Days to learn Discipline, and are to be ready in Case of Invasion etc. by any great Force, but are of little Use in hunting Indians; and therefore all the Colonies, in such Wars hire Men for the purpose who are fitter for it, and make it their Business. This Distinction between the *Provincial Troop* and the *Militia* of the Colonies seems not to be understood in England; for even the Lords of Trade in their Report against our Militia Law, appear to have look'd upon them as the same, when they object "that as our Militia were not oblig'd to march more than three Days out of the Province without their Consent, it might hazard the King's Troops that should be joined with them." Whereas if any Expedition is undertaken in the Colonies in Cooperation with the King's Troops it is not carried on by the Militia as such, but by listed Men hired expressly for that Service; these are called *Provincial Forces*, and under as absolute

Command, 'till that Service is ended as the King's Troops; so that the Inconvenience objected to was not real. However we are now to have a Militia Law like the other Colonies. The Bill is brought into the House, and I suppose will pass.

We shall, as we ought, do all that can reasonably be expected of us, to please as well as serve, our Mother Country.

I am with Sincerest Respect and Affection,

Dear Sir, Your most obed^{t}. humble servant

B. FRANKLIN.

233. TO EDWARD AND JANE MECOM[1]

Philadelphia, December 30, 1756.

DEAR BROTHER AND SISTER,

You will receive this by the hand of your son Benjamin, on whose safe return from the West Indies I sincerely congratulate you.

He has settled accounts with me, and paid the balance honourably. He has also cleared the old printing-house to himself, and sent it to Boston, where he purposes to set up his business, together with bookselling, which, considering his industry and frugality, I make no doubt will answer. He has good credit and some money in England, and I have helped him by lending him a little more; so that he may expect a cargo of books, and a quantity of new letter, in the spring; and I shall from time to time furnish him with paper. We all join in love to you and yours. I am your loving brother,

B. FRANKLIN.

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[1] From "A Collection of the Familiar Letters of Benjamin Franklin," Boston, 1833, p. 47. — ED.

234. TO WILLIAM STRAHAN[1] (P. C.)

Philadelphia, December 31, 1756

DEAR SIR: — This serves only to cover a bill of exchange, drawn by B. Mecom on you, upon a supposition that you have received bills he sent you from Antigua for about £120 more than the balance of your account. If those bills are not come to hand or not paid, you need not be at the trouble of protesting this bill, but let it lie in your hands till you hear farther from me. If those bills are paid, then please to carry this £100 to my account. B. Mecom has settled honourably with me, and bought my old printing-house that he had at Antigua. He wants some new letters which he now writes for. Lest his bills above mentioned should fail, I have given him a draft on my friend Collinson for £50 sterling, which he now sends to you. He purposes to set up in Boston. My respects affectionately to you and yours, particularly my son Billy. It gives me great pleasure to learn by your last that he has become so capable of business. I am, dear sir, your most obedient servant,

B. FRANKLIN.

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[1] From John Bigelow, "The Complete Works of Benjamin Franklin" (1887), Vol. X, p. 279. — ED.

235. PLAN

FOR SETTLING TWO WESTERN COLONIES IN NORTH AMERICA, WITH REASONS FOR THE PLAN.[1]

The great country back of the Appalachian Mountains, on both sides of the Ohio, and between that river and the Lakes is now well known, both to the English and French, to be one of the finest in North America, for the extreme richness and fertility of the land; the healthy temperature of the air, and mildness of the climate; the plenty of hunting, fishing, and fowling; the facility of trade with the Indians; and the vast convenience of inland navigation or water-carriage by the Lakes and great rivers, many hundreds of leagues around.

From these natural advantages it must undoubtedly (perhaps in less than another century) become a populous and powerful dominion; and a great accession of power either to England or France.

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[1] Dr. Franklin was early possessed of the belief, that great advantage would redound to the English Colonies on the sea-board by settlements beyond the Alleganies under governments distinctly organized. Such settlements would not only rapidly increase in population, thereby strengthening the power of the whole, but would serve as a barrier to the other colonies against the Indians and French, who, in time of war, made descents upon the frontiers, kept the people in alarm, and caused great expense in raising troops and supporting an army to repel their invasions. He pursued this favourite object for many years; and after he went to England a company was formed, under his auspices, who petitioned for a grant to settle a colony west of the Allegany mountains. Many obstacles were encountered, but the application was at last successful. The scheme was prevented from being carried into effect by the troubles immediately preceding the revolution.

The following paper was probably written shortly after the Albany Convention, in 1754, at the request of Governor Pownall, who had a project for settling what he called "barrier colonies." — S.

The date of the writing is not exactly known, but it was presented by Governor Pownall as a memorial to the Duke of Cumberland, in 1756. — Ed.

The French are now making open encroachments on these territories, in defiance of our known rights; and, if we longer delay to settle that country, and suffer them to possess it, these *inconveniences and mischiefs* will probably follow:

1. Our people, being confined to the country between the sea and the mountains, cannot much more increase in number; people increasing in proportion to their room and means of subsistence.

2. The French will increase much more, by that acquired room and plenty of subsistence, and become a great people behind us.

3. Many of our debtors and loose English people, our German servants, and slaves, will probably desert to them, and increase their numbers and strength, to the lessening and weakening of ours.

4. They will cut us off from all commerce and alliance with the western Indians, to the great prejudice of Britain, by preventing the sale and consumption of its manufactures.

5. They will both in time of peace and war (as they have always done against New England) set the Indians on to harass our frontiers, kill and scalp our people, and drive in the advanced settlers; and so, in preventing our obtaining more subsistence by cultivating of new lands, they discourage our marriages, and keep our people from increasing; thus (if the expression may be allowed) killing thousands of our children before they are born.

If two strong colonies of English were settled between the Ohio and Lake Erie, in the places hereafter to be mentioned, these advantages might be expected;

1. They would be a great security to the frontiers of our other colonies, by preventing the incursions of the French and French Indians of Canada, on the back parts of Pennsylvania, Maryland, Virginia, and the Carolinas; and the frontiers of such new colonies would be much more easily defended, than those of the colonies last mentioned now can be, as will appear hereafter.

2. The dreaded junction of the French settlements in Canada with those of Louisiana would be prevented.

3. In case of a war, it would be easy, from those new colonies, to annoy Louisiana, by going down the Ohio and Mississippi; and the southern part of Canada, by sailing over the Lakes, and thereby confine the French within narrow limits.

4. We could secure the friendship and trade of the Miamis or Twigtwees (a numerous people consisting of many tribes, inhabiting the country between the west end of Lake Erie, and the south end of Lake Huron, and the Ohio), who are at present dissatisfied with the French, and fond of the English, and would gladly encourage and protect an infant English settlement in or near their country, as some of their chiefs have declared to the writer of this memoir. Further, by means of the Lakes, the Ohio, and the Mississippi, our trade might be extended through a vast country, among many numerous and distant nations, greatly to the benefit of Britain.

5. The settlement of all the intermediate lands, between the present frontiers of our colonies on one side, and the Lakes and Mississippi on the other, would be facilitated and speedily executed, to the great increase of Englishmen, English trade, and English power.

The grants to most of the colonies are of long, narrow slips of land, extending west from the Atlantic to the South Sea. They are much too long for their breadth; the extremes at too great a distance; and therefore unfit to be continued under their present dimensions.

Several of the old colonies may conveniently be limited westward by the Allegany or Appalachian mountains, and new colonies formed west of those mountains.

A single old colony does not seem strong enough to extend itself otherwise than inch by inch. It cannot venture a settlement far distant from the main body, being unable to support it; but if the colonies were united under one governor-general and grand council, agreeably to the Albany plan, they might easily, by their joint force, establish one or more new colonies, whenever they should judge it necessary or advantageous to the interest of the whole.

But if such union should not take place, it is proposed that two charters be granted, *each* for some considerable part of the lands west of Pennsylvania and the Virginian mountains, to a number of the nobility and gentry of Britain; with such Americans as shall join them in contributing to the settlement of those lands, either by paying a proportion of the expense of making such settlements, or by actually going thither in person, and settling themselves and families.

That by such charters it be granted, that every actual settler be entitled to a tract of —— acres for himself, and —— acres for every poll in the family he carries with him; and that every contributor of —— guineas be entitled to a quantity of acres, equal to the share of a single settler, for every such sum of guineas contributed and paid to the colony treasurer; a contributor for —— shares to have an additional share *gratis;* that settlers may likewise be contributors, and have right of land in both capacities.

That as many and as great privileges and powers of government be granted to the contributors and settlers, as his Majesty in his wisdom shall think most fit for their benefit and encouragement, consistent with the general good of the British empire; for extraordinary privileges and liberties, with lands on easy terms, are strong inducements to people to hazard their persons and fortunes in settling new countries. And such powers of government as (though suitable to their circumstances, and fit to be trusted with an infant colony,) might be judged unfit, when it becomes populous and powerful, these might be granted for a term only; as the choice of their own governor for ninety-nine years; the support of government in the colonies of Connecticut and Rhode Island (which *now* enjoy that and other like privileges) being much less expensive, than in the colonies under the immediate government of the crown, and the constitution more inviting.

That the first contributors to the amount of —— guineas be empowered to choose a treasurer to receive the contribution.

That no contributions be paid till the sum of —— thousand guineas be subscribed.

That the money thus raised be applied to the purchase of the lands from the Six Nations and other Indians, and of provisions, stores, arms, ammunition, carriages, &c., for the settlers, who, after having entered their names with the treasurer, or person by him appointed to receive and enter them, are, upon public notice given for that purpose, to rendezvous at a place to be appointed, and march in a body to the place destined for their settlement, under the charge of the government to be established over them. Such rendezvous and march, however, not to be directed, till the number of names of settlers entered, capable of bearing arms, amount at least to —— thousand.

It is apprehended, that a great sum of money might be raised in America on such a scheme as this; for there are many who would be glad of any opportunity, by advancing a small sum at present, to secure land for their children, which might in a few years become very valuable; and a great number it is thought of actual settlers might likewise be engaged (some from each of our present colonies), sufficient to carry it into full execution by their strength and numbers; provided only, that the crown would be at the expense of removing the little forts the French have erected in their encroachments on his Majesty's territories, and supporting a strong one near the Falls of Niagara, with a few small armed vessels, or half-galleys to cruise on the Lakes.

For the security of this colony in its infancy, a small fort might be erected and for some time maintained at Buffalo Creek on the Ohio, above the settlement; and another at the mouth of the Tioga, on the south side of Lake Erie, where a port should be formed, and a town erected, for the trade of the Lakes. The colonists for *this settlement* might march by land through Pennsylvania.

The river Scioto, which runs into the Ohio about two hundred miles below Logstown, is supposed the fittest seat for the *other colony;* there being for forty miles on each side of it, and quite up to its heads, a body of all rich land; the finest spot of its bigness in all North America, and has the particular advantage of sea-coal in plenty (even above ground in two places) for fuel, when the woods shall be destroyed. This colony would have the trade of the Miamis or Twigtwees; and should, at first, have a small fort near Hochockin, at the head of the river; and another near the mouth of Wabash. Sandusky, a French fort near the Lake Erie, should also be taken; and all the little French forts south and west of the Lakes, quite to the Mississippi, be removed, or taken and garrisoned by the English. The colonists for this settlement might assemble near the heads of the rivers in Virginia, and march over land to the navigable branches of the Kenhawa, where they might embark with all their baggage and provisions, and fall into the Ohio, not far above the mouth of the Scioto. Or they might rendezvous at Will's Creek, and go down the Monongahela to the Ohio.

The fort and armed vessels at the strait of Niagara would be a vast security to the frontiers of these new colonies against any attempts of the French from Canada. The fort at the mouth of the Wabash would guard that river, the Ohio, and the Cutava River, in case of any attempt from the French of the Mississippi. Every fort should have a small settlement round it, as the fort would protect the settlers, and the settlers defend the fort and supply it with provisions.

The difficulty of settling the first English colonies in America, at so great a distance from England, must have been vastly greater, than the settling these proposed new colonies; for it would be the interest and advantage of all the present colonies to support these new ones; as they would cover their frontiers, and prevent the growth of the French power behind or near their present settlements; and the new country is nearly at equal distance from all the old colonies, and could easily be assisted from all of them.

And as there are already in all the old colonies many thousands of families that are ready to swarm, wanting more land, the richness and natural advantage of the Ohio country would draw most of them thither, were there but a tolerable prospect of a safe settlement. So that the new colonies would soon be full of people; and, from the advantage of their situation, become much more terrible to the French settlements, than those are now to us. The gaining of the back Indian trade from the French, by the navigation of the Lakes, &c., would of itself greatly weaken our enemies, it being now their principal support. It seems highly probable, that in time they must be subjected to the British crown, or driven out of the country.

Such settlements may better be made now, than fifty years hence; because it is easier to settle ourselves, and thereby prevent the French settling there, as they seem now to intend, than to remove them when strongly settled.

If these settlements are postponed, then more forts and stronger, and more numerous and expensive garrisons must be established, to secure the country, prevent their settling, and secure our present frontiers; the charge of which may probably exceed the charge of the proposed settlements, and the advantage nothing near so great.

The fort at Oswego should likewise be strengthened, and some armed half-galleys, or other small vessels, kept there to cruise on Lake Ontario, as proposed by Mr. Pownall in his paper laid before the commissioners at the Albany treaty.

If a fort was also built at Tirondequat on Lake Ontario, and a settlement made there near the lake side, where the lands are said to be good, much better than at Oswego; the people of such settlements would help to defend both forts on any emergency.

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236. TO PETER COLLINSON[1] (P. C.)

Philad^a Jan. 31. 1757

DEAR SIR

The preceding are Copies of my late Letters: to which I have little to add, except the request you would send the Magazines mention'd in the enclos'd List, which it seems are still wanting to compleat the Sets in the Library. It may be well enough to forbear sending the Universal Magazine for the future: it contains little of Value. I inclose also an Almanack and some Sheets to compleat your Set of Votes for the last Year.

The rest are in Mr. Bartram's Box. Our Assembly has unanimously voted sending me to England, to endeavour a Settlement of our Disputes; I have not determin'd yet to go, as they gave me some Days to consider of it.

It will be a good Work, whoever does it; for the Province at present is very unhappy.

I am, Dear Sir,
Your affectionate humble Servant
B. FRANKLIN

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237. TO WILLIAM STRAHAN (P. C.)

January 31, 1757.

DEAR SIR: — The above is a copy of my last. I have now before me your favour of September 11th. I shall not fail on every occasion to recommend you to my friends on the book account. I wish I could give you any hopes of soon receiving your debt of J. Read. Mr. Hall, no doubt, writes you more fully concerning him. It gives me great pleasure to hear so good an account of our son Billy. In return, let me tell you that our daughter Sally is indeed a very good girl, affectionate, dutiful, and industrious, has one of the best hearts, and though not a wit, is, for one of her years, by no means deficient in understanding. She already takes off part of her mother's family cares. This must give you and Mrs. Strahan pleasure. So that account is partly balanced.

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[1] From the private collection of Mr. J. Pierpont Morgan. — ED.

Our Assembly talk of sending me to England speedily. Then look out sharp, and if a fat old fellow should come to your printing-house and request a little smouting, depend upon it 't is your affectionate friend and humble servant,

B. FRANKLIN.

P. S. — I enclose B. Mecom's first bill for £100 sterling, the 2d and 3d sent before.

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238. TO ROBERT CHARLES[1] (A. P. S.)

[Philadelphia,] Feb. 1. 1757.

SIR,

I receiv'd your several Favours of Aug^{t} 14. Sept. 18. Sept. 22. and Oct. 16. By this Ship you will receive a Box containing Sundry Copies of our last Years' Votes, to which are added, as you advised, the Accounts of the Expenditure of the 55,000 £, and the subsequent 30,000 £. Also the Papers relating to the Employing foreign Officers. There is also in the Box an authenticated Copy of our late Bill for granting 100,000 £ to the King's Use, and of the Vote appointing yourself and Mr. Patridge Agents, under the great Seal, with all the late Messages etc. You will see in the Votes a Copy of the Proprietary Instructions, in which a Money Bill is made for us by the Proprietary, sitting in his Closet at 1,000 Leagues' distance.

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[1] For many years agent in England for the Assembly of Pennsylvania. — ED.

The Governor laid before us an Estimate of the necessary Expence for defending this Province one Year, amounting to £125,000. We knew our Inability to bear the raising of so great a Sum in so short a time: We deducted the least necessary Articles, and reduced it to 100,000 £ which we granted, and sent up the Bill. Not that we thought this Province capable of Paying such a Tax Yearly, or any thing near it, but believing it necessary to exert ourselves at this Time in an extraordinary Manner, to save the Country from total Ruin by the Enemy. The Governor, (to use his own polite Word,) REJECTS it. Your English Kings I think are complaisant enough in such Cases to say, *they will advise upon it.* We have no Remedy here, but must obey the Instruction, by which we are so confin'd, as to the Time of [rating] the Property to be tax'd, the Valuation of that Property, and the Sum per Pound to be tax'd on the Valuation, that it is demonstrably impossible by such a Law to raise one Quarter of the Money absolutely necessary to defend us. So $\frac{3}{4}$ of our Troops must be disbanded, and the Country be exposed to the Mercy of our Enemies, rather than the least tittle of a Proprietary Instruction should be deviated from!

I forbear to enlarge, because the House have unanimously desired your Friend Mr. Norris and myself, to go home immediately to assist their Agents in getting these Matters settled. He has not yet determined; but if he goes, you will by him be fully informed of every thing, and my going will not, in my Opinion, be necessary: If he declines it, I may possibly soon have the Pleasure of seeing you. I am with great Respect, Sir, &c.

B. FRANKLIN.

239. TO MRS. JANE MECOM[1]

Philadelphia, February 21, 1757.

DEAR SISTER,

I am glad to hear your son has got well home. I like your conclusion not to take a house for him till summer, and, if he stays till his new letters arrive, perhaps it would not be amiss; for a good deal depends on the first appearance a man makes. As he will keep a bookseller's shop, with his printing-house, I don't know but it might be worth his while to set up at Cambridge.

I enclose you some whisk seed; it is a kind of corn, good for creatures; it must be planted in hills, like Indian corn. The tops make the best thatch in the world; and of the same are made the whisks you use for velvet. Pray try if it will grow with you. I brought it from Virginia. Give some to Mr. Cooper, some to Mr. Bowdoin. Love to cousin Sally, and her spouse. I wish them and you much joy. Love to brother, &c.

B. FRANKLIN.

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[1] From "A Collection of the Familiar Letters of Benjamin Franklin," Boston, 1833, p. 48. — ED.

240. REPORT

OF THE COMMITTEE OF AGGRIEVANCES OF THE ASSEMBLY OF PENNSYLVANIA[1]

Dated February 22, 1757

In obedience to the order of the House, we have drawn up the heads of the most important aggrievances that occur to us, which the people of this province with great difficulty labour under; the many infractions of the constitution, (in manifest violation of the royal grant, the proprietary charters, the laws of this province, and of the laws, usages, and customs of our mother country,) and other matters, which we apprehend call aloud for redress.

They are as follow:

First. By the royal charter, (which has ever been, ought to be, and truly is, the principal and invariable fundamental of this constitution,) King Charles the Second did give and grant unto William Penn, his heirs and assigns, the province of Pennsylvania; and also to him and his heirs, and his or their *deputies* or lieutenants, free, full, and absolute power for the good and happy government thereof, to make and enact any laws, "according to their best discretion, by and with the advice, assent, and approbation of the *freemen* of the said country, or of their delegates or deputies;" for the raising of money, or any other end appertaining to the public state, peace, or safety of the said country. By the words of this grant, it is evident that full powers were granted to the *deputies* and lieutenants of William Penn and his heirs, to concur with the people in framing laws for their protection and the safety of the province, according to their "best discretion," independent of any instructions or directions they should receive from their *principals*. And it is equally obvious to your committee, that the *people* of this province and their representatives were interested in this royal grant, and, by virtue thereof have an original right of legislation inherent in them, which neither the proprietors nor any other person whatsoever, can divest them of, restrain, or abridge, without manifestly violating and destroying the letter, spirit, and design of this grant.

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[1] From "Votes and Proceedings of the House of Representatives of the Province of Pennsylvania," Vol. IV, p. 697. — Ed.

Nevertheless we unfortunately find, that the proprietaries of this province, regardless of this sacred fundamental of all our rights and liberties, have so abridged and restricted their late and present *governor's* discretion in matters of legislation, by their illegal, impracticable, and unconstitutional instructions and prohibitions, that no bill for granting aids and supplies to our most gracious Sovereign, (be it ever so reasonable, expedient, and necessary for the defence of this his Majesty's colony, and safety of his people,) unless it be agreeable thereto, can meet with his approbation; by means whereof the many considerable sums of money, which have been offered for those purposes by the Assemblies of this province (ever anxious to maintain his honour and rights), have been rejected; to the great encouragement of his Majesty's enemies, and the imminent danger of the loss of this his colony.

Secondly. The representatives of the people in General Assembly met, by virtue of the said royal grant, and the charter of privileges granted by the said William Penn, and a law of this province, have right to, and ought to enjoy, all the powers and privileges of an Assembly, according to the rights of the free-born subjects of England, and as is usual in any of the plantations in America. It is an indubitable and now an incontested right of the Commons of England to *grant aids* and supplies to his Majesty in any manner they think most easy to themselves and the people; and they are the sole judges of the *measure, manner and time* of granting and raising the same.

Nevertheless the proprietaries of this province, in contempt of the said royal grant, proprietary charter, and law of this colony; designing to subvert the fundamentals of this constitution, to deprive the Assembly and people of their rights and privileges, and to assume an arbitrary and tyrannical power over the liberties and properties of his Majesty's liege subjects; have so restrained their governors by their *despotic instructions*, (which are not to be varied from, and are particularly directory in the framing and passing of money bills and supplies to his Majesty, as to the mode, measure, and time,) that it is impossible for the Assembly, should they lose all sense of their most essential rights, and comply with those instructions, to grant sufficient aids for the defence of this his Majesty's province from the common enemy.

Thirdly. In pursuance of sundry acts of General Assembly, approved of by the crown, a natural right, inherent in every man, antecedent to all laws, the Assemblies of this province have had the power of *disposing* of the *public* monies that have been raised for the encouragement of trade and support of government, by the interest money arising by the loan of the bills of credit and the excise. No part of these monies was ever paid by the *proprietaries*, or ever raised on their estates; and therefore, they can have no pretence of right to a voice in the disposition of them. They have ever been applied with prudent frugality for the honour and advantage of the public and the King's immediate service, to the general approbation of the people; the credit of the government has been preserved, and the debts of the public punctually discharged. In short, no inconveniencies, but great, and many, advantages have accrued from the Assembly's prudent care and management of these funds.

Yet the proprietaries, resolved to deprive the Assemblies of the power and means of *supporting an agent* in England, and of prosecuting their complaints, and remonstrating their aggrievances, when injured or oppressed, to his Majesty and his Parliament, and to rob them of this natural right (which has been so often approved of by their gracious Sovereign), have, by their said instructions, prohibited their governor from giving his assent to any laws emitting or reëmitting any paper currency or bills of credit, or for raising money by excise or any other method; unless the governor or commander-in-chief for the time being, by clauses to be inserted therein, have *a negative in the disposition* of the monies arising thereby, let the languishing circumstances of our trade be ever so great, and a further or greater medium become ever so necessary for its support.

Fourthly. By the laws and statutes of England, the chief rents, honours, and castles of the *crown* are taxed, and *pay their proportion* to the supplies that are granted to the King for the defence of the realm, and support of government. His Majesty, the nobility of the realm, and all the British subjects do now actually contribute their proportion towards the defence of America in general, and this province in particular; and it is in a more especial manner the duty of the *proprietaries* to pay their proportion of a tax for the immediate preservation of their own estates in this province. To exempt, therefore, any part of their estates from their reasonable part of this necessary burthen, is as unjust as it is illegal, and as new as arbitrary.

Yet the proprietaries, notwithstanding the general danger to which the nation and its colonies are exposed, and great distress of this province in particular, by their said instructions have prohibited their governors from passing laws for the raising supplies for its defence, *unless* all their located, unimproved, and unoccupied lands, quit-rents, fines, and purchase monies on interest, (the much greater part of their enormous estates in this colony,) are expressly exempted from paying any part of the tax.

Fifthly. By virtue of the said royal charter, the proprietaries are invested with a power of "doing every thing which unto a complete establishment of justice, unto courts and tribunals, forms of judicature, and manner of proceedings do belong." It was certainly the import and design of this grant, that the courts of judicature should be formed, and the *judges* and officers thereof hold their commissions, in a manner not repugnant, but agreeable, to the laws and customs of England; that thereby they might remain free from the influence of persons in power, the rights of the people might be preserved, and their properties effectually secured. That the grantee, William Penn, (understanding the said grant in this light) did, by his original frame of government, covenant and grant with the people, that the judges and other officers should hold their commissions during their *good behaviour, and no longer.*

Notwithstanding which, the governors of this province have, for many years past, granted all the commissions to the judges of the King's Bench, or supreme court of this province, and to the judges of the court of Common Pleas of the several counties, to be held during their *will and pleasure.* By means whereof, the said judges being subject to the influence and directions of the proprietaries and their governors, their favourites and creatures, the laws may not be duly administered or executed, but often wrested from their true sense, to serve particular purposes; the foundation of justice may be liable to be destroyed; and the lives, laws, liberties, privileges, and properties of the people thereby rendered precarious and altogether insecure, to the great disgrace of our laws, and the inconceivable injury of his Majesty's subjects.

Your committee further beg leave to add, that besides these aggrievances, there are other hardships the people of this province have experienced, that call for redress. The *inlistment of servants, without the least satisfaction* being made to the masters, has not only prevented the cultivation of our lands, and diminished the trade and commerce of the province, but is a burden extremely unequal and oppressive to individuals; and should the practice continue, the consequence must prove very discouraging to the further settlement of this colony, and prejudicial to his Majesty's future service. Justice therefore demands that satisfaction should be made to the masters of such inlisted servants, and that the right of masters to their servants be confirmed and settled. But as those servants have been inlisted into his Majesty's service for the general defence of America, and not of this province only, but all the colonies, and the nation in general, have and will receive, equal benefit from their service, this satisfaction should be made at the expense of the nation, and not of this province only.

That the people now labour under *a burden of taxes* almost insupportable by so young a colony, for the defence of its long-extended frontier, of about two hundred miles from New Jersey to Maryland; without either of those colonies, or the three lower counties, on Delaware, contributing their proportion thereto; though their frontiers are in a great measure covered and protected by our forts. And, should the war continue, and with it this unequal burden, many of his Majesty's subjects in this province will be reduced to want, and the province, if not lost to the enemy, involved in debt and sunk under its load.

That notwithstanding this weight of taxes, the Assemblies of this province *have given to the general service* of the nation five thousand pounds to purchase provisions for the troops under General Braddock; £2,985. 0*s.* 11*d.* for clearing a road by his orders; £10,514. 10*s.* 1*d.* to General Shirley, for the purchasing provisions for the New England forces; and expended the sum of £2,385 0*s.* 2½*d.* in supporting the inhabitants of Nova Scotia; which likewise we conceive ought to be a national expense.

And that his Majesty's subjects, the merchants and insurers in England, as well as the merchants here and elsewhere, did during the last, and will during the present war, be greatly injured in their property, trade, and commerce, by the *enemy's privateers* on this coast, and at our capes, unless some method be fallen on to prevent it.

Wherefore your committee are of opinion, that the commissioners, intended to be sent to England to solicit a Removal and redress of the many infractions and violations of the constitution, should also have it in charge, and be instructed, to represent to our most gracious Sovereign and his Parliaments the several unequal burdens and hardships before mentioned; and endeavour to procure satisfaction to the masters of such servants as have been enlisted, and the right of masters to their servants established and confirmed, and obtain a repayment of the said several sums of money, some assistance towards defending our extensive frontier, and a vessel of war to protect the trade and commerce of this province.

Submitted to the correction of the House.

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241. TO WILLIAM PARSONS (A. P. S.)

Phila^a, Feb. 22, 1757.

Dear Friend,

I thank you for the Intelligence from Fort Allen, relating to the Indians. The Commissioners have not yet settled your Account, but I will press them to do it immediately. I have not heard from Mr. Stephenson, but will write to him once more.

And now, my dear old Friend, I am to take Leave of you, being order'd home to England by the Assembly, to obtain some final Settlement of the Points, that have occasioned so many unhappy Disputes. I assure you I go with the sincerest Desire of procuring Peace, and therein I know I shall have your Prayers for my Success. God bless you, and grant that at my Return I may find you well and happy. I am, as ever, D^r Friend, yours affectionately,

B. Franklin.

242. TO MISS CATHERINE RAY[1]

Philadelphia, March 3, 1757.

DEAR KATY,

Being about to leave America for some time, I could not go without taking leave of my dear friend. I received your favour of the 8th of November, and am ashamed, that I have suffered it to remain so long unanswered, especially as now, through shortness of time, I cannot chat with you in any manner agreeably.

I can only wish you well and happy, which I do most cordially. Present my best compliments to your good mamma, brother and sister Ward, and all your other sisters, the agreeable Misses Ward, Dr. Babcock and family, the charitable Misses Stanton, and, in short, to all that love me. I should have said all that love you, but that would be giving you too much trouble. Adieu, dear good girl, and believe me ever your affectionate friend,

B. FRANKLIN.

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243. TO MRS. DEBORAH FRANKLIN (A. P. S.)

Trenton, April 5. 1757

MY DEAR CHILD,

We found the Roads much better than we expected, and got here well before Night. My kind Friend Mr. Griffith's Carriage appearing too weak in the Wheels, I have accepted Mr. Masters's obliging Offer, and take his Carriage forward from this Place, and he will return to Town in Mr. Griffith's.

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[1] From "A Collection of the Familiar Letters of Benjamin Franklin," Boston, 1833, p. 49. — ED.

About a Dozen of our Friends accompanied us quite hither, to see us out of the Province, and we spent a very agreable Evening together. I leave Home, and undertake this long Voyage more chearfully, as I can rely on your Prudence in the Management of my Affairs, and Education of my dear Child; and yet I cannot forbear once more recommending her to you with a Father's tenderest Concern. My Love to all. If the Roads do not prove worse, we may be at Woodbridge to-night. I believe I did not see Mr. Dunlap when I came away, so as to take leave of him; my Love to him. Billy presents his Duty and Love to all. I am your affec^e^ Husband, B. FRANKLIN.

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244. TO SAMUEL HAZARD[1] (A. P. S.)

Philad^a^ April 11th 1757

SIR

Your Absence when the Business was to be done for M^r^ Greeme, prevented your seeing Mess^rs^ Stevenson's Letter at that Time, or the Account that was afterwards carried to your House by my Son. — I had however some Expectations that you would do what was desired of you by those Gentlemen, your Friends, and I readily did what seem'd immediately necessary to serve M^r^ Greeme, on Sight of their Letters to you, tho' I had no Knowledge either of him or them; and never have wrote a Line to him on the Affair. But your refusal of that as well as of Kneelands Orders, is sufficient, as you never assumed, to be sure you are not oblig'd to pay. —

[1] Samuel Hazard (1714–1758), a merchant of Philadelphia, and one of the original Trustees of Princeton. — ED.

The Case seems to be different with respect to the Prizes, which you now speak of as out of date: In July 1755 when you promised to Account with me for them if I would furnish Mr Hesselus with Academy Tickets, they were as much out of Date, as they are now: On that Promise, I immediately furnished those Tickets, and have ever since kept your Note and those Prizes together, to be ready for a Settlement, whenever you should call on me for that Purpose: As to the Billet you mention to be "sent by me (after yours) signifying my Intentions to return the Tickets to Virginia, in consequence of which you settled with the Trustees of the College &c. I think it must be an absolute Mistake, and that I never sent you any such Billet: For why should I return the Tickets to Virginia, when they had (on your promise to allow the Prizes) been received by me as pay for the Academy Tickets I furnished to Mr Hessilus; — and therefore ought to be produced by me at our Settlement, in which you said you would Account with me for them, i.e. in our Settlement for the Tickets I had of you: — In short, I always expected that whatever Prizes were in the Tickets bought of you, would be allowed, when the Money for the Tickets was demanded; and it seems to me, that my delaying to make my Demand of the Prize Money till you should make your Demand of the Ticket Money ought not to deprive me of my Right, any more than your Delaying till this Time to make your Demand ought to deprive you of yours: — and indeed, as the Prize Money did not amount to more than I owed for the Tickets, it did not seem necessary that I should demand Payment of my Prizes, they being already paid by Money in my Hands.

If I did not pay for the two Tickets you mention to have sold me besides the 6 they must now be paid for; — I submit that to your Books:

I thank you for your good Wishes, and am glad to hear your Affairs are near being compleated, being

Sir

Your very hble Ser

B Franklin

245. TO DR. ALEXANDER GARDEN[1] (A. P. S.)

Dr Garden New York, April 14 1757

Sir

I am here waiting the Departure of the Pacquet in which I am about to embark for London, and by that means have Leisure to write a little to my Friends, which the distracted State of our Province, and the Hurry of Affairs I have been engag'd in, for some time prevented. I wish now that I had brought some of your ingenious Letters with me, that I might have consider'd them fully: particularly what relates to the Element of Fire, and the Quantity receiv'd by the Earth from the Sun, &c. — I have touch'd a little on the Subject of Fire, in mine of this Date to Dr Lining, to which I beg leave to refer you. But Fire is full of Wonders, & as yet we know little of its Nature.

I forwarded your Pacquet & Letter to Mr Clayton as desired, & free of Charge to him. I purpose, God willing, to return from England by way of Carolina, when I promise myself the Pleasure of seeing & conversing with my Friends in Charlestown.

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[1] Dr. Garden (1730?–1791) practised medicine in Charleston, S.C. He was eminent as a botanist and zoölogist. Linnæus named the Gardenia after him. — Ed.

Col. Bouquet, who does me the favour to deliver this to you, is a Gentleman whose Conversation you must be pleas'd with; and I am sure a Stranger, of Learning, Ingenuity & Politeness will not fail of your Civilities. I therefore only take the Liberty of Introducing him to you, and leave the rest to yourself.

I am, with great Esteem & Respect, Sir

Your most obed^{t} hum^{e} Serv^{t}

B FRANKLIN.

246. TO COLONEL HENRY BOUQUET (A. P. S.)

COL BOUQUET New York April 14 1757

Dr Sir

I thank you for the Letter you have favour'd me with to Professor Koenig. I shall take care to deliver the other to Mons^{r}. Guinand, if I reach London.

I regret much that thro' your Business & mine I could enjoy so little of your Conversation at Philad^{a} How happy are the Folks in Heaven, who, tis said, have nothing to do, but to talk with one another, except now and then a little Singing, & Drinking of Aqua Vitae.

We are going different Ways, & perhaps may never meet, till we meet there. I pity you for the hot Summer you must first undergo in Charlestown. — I do all I can for your Relief, by Recommending you to an ingenious Physician of my Acquaintance, who knows the Rule of making cool, weak, refreshing Punch, not inferior to the Nectar of the Gods.

Just now I presume to make a Prayer to them, *That whatever I wish for my Friends, shall come to pass.* If this

Prayer be granted, you may be sure of a pleasant Voyage, an agreable Campaign, Health, Honour and Happiness. But why should I think such Praying & Wishing Necessary. The Gods will doubtless take Care of those they love. *A Dieux* then, Dear Sir, & believe me with Sincere Esteem, Respect & Affection,

Your most obed^t & most humble Servt

B FRANKLIN.

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247. TO JOHN LINING, AT CHARLESTON, SOUTH CAROLINA[1]

(A. P. S.) and (P. C.)

New York, April 14, 1757.

SIR,

It is a long time since I had the pleasure of a line from you; and, indeed, the troubles of our country, with the hurry of business I have been engaged in on that account, have made me so bad a correspondent, that I ought not to expect punctuality in others.

But, being about to embark for England, I could not quit the continent without paying my respects to you, and, at the same time, taking leave to introduce to your acquaintance a gentleman of learning and merit, Colonel Henry Bouquet, who does me the favour to present you this letter, and with whom I am sure you will be much pleased.

Professor Simson, of Glasgow, lately communicated to me some curious experiments of a physician of his acquaintance, by which it appeared that an extraordinary degree of cold, even to freezing, might be produced by evaporation. I have not had leisure to repeat and examine more than the first and easiest of them, viz. Wet the ball of a thermometer by a feather dipped in spirit of wine, which has been kept in the same room, and has, of course, the same degree of heat or cold. The mercury sinks presently three or four degrees, and the quicker, if, during the evaporation, you blow on the ball with bellows; a second wetting and blowing, when the mercury is down, carries it yet lower. I think I did not get it lower than five or six degrees from where it naturally stood, which was, at that time, sixty. But it is said, that a vessel of water being placed in another somewhat larger, containing spirit, in such a manner that the vessel of water is surrounded with the spirit, and both placed under the receiver of an air-pump; on exhausting the air, the spirit, evaporating, leaves such a degree of cold as to freeze the water, though the thermometer, in the open air, stands many degrees above the freezing point.

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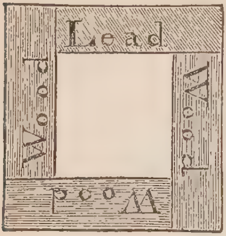
[1] Fragmentary rough draft in A. P. S., and a copy in the possession of T. Hewson Bradford, M.D. — ED.

I know not how this phenomenon is to be accounted for; but it gives me occasion to mention some loose notions relating to heat and cold, which I have for some time entertained, but not yet reduced into any form. Allowing common fire, as well as electrical, to be a fluid capable of permeating other bodies, and seeking an equilibrium, I imagine some bodies are better fitted by nature to be conductors of that fluid than others; and that, generally, those which are the best conductors of the electrical fluid, are also the best conductors of this; and *e contra.*

Thus a body which is a good conductor of fire readily receives it into its substance, and conducts it through the whole to all the parts, as metals and water do; and if two bodies, both good conductors, one heated, the other in its common state, are brought into contact with each other, the body which has most fire readily communicates of it to that which had least, and that which had least readily receives it, till an equilibrium is produced. Thus, if you take a dollar between your fingers with one hand, and a piece of wood, of the same dimensions, with the other, and bring both at the same time to the flame of a candle, you will find yourself obliged to drop the dollar before you drop the wood, because it conducts the heat of the candle sooner to your flesh. Thus, if a silver tea-pot had a handle of the same metal, it would conduct the heat from the water to the hand, and become too hot to be used; we therefore give to a metal tea-pot a handle of wood, which is not so good a conductor as metal. But a china or stone tea-pot being in some degree of the nature of glass, which is not a good conductor of heat, may have a handle of the same stuff. Thus, also, a damp moist air shall make a man more sensible of cold, or chill him more, than a dry air that is colder, because a moist air is fitter to receive and conduct away the heat of his body. This fluid, entering bodies in great quantity first expands them by separating their parts a little, afterwards, by farther separating their parts, it renders solids fluid, and at length dissipates their parts in air. Take this fluid from melted lead, or from water, the parts cohere again; (the first grows solid, the latter becomes ice;) and this is sooner done by the means of good conductors. Thus, if you take, as I have done, a square bar of lead, four inches long, and one inch thick, together with three pieces of wood planed to the same dimensions, and lay them, as in the margin, on a smooth board, fixed so as not to be easily separated or moved, and pour into



the cavity they form, as much melted lead as will fill it, you will see the melted lead chill, and become firm, on the side next the leaden bar, some time before it chills on the other three sides in contact with the wooden bars, though, before the lead was poured in, they might all be supposed to have the same degree of heat or coldness, as they had been exposed in the same room to the same air. You will likewise observe, that the leaden bar, as it has cooled the melted lead more than the wooden bars have done, so it is itself more heated by the melted lead. There is a certain quantity of this fluid, called fire, in every living human body, which fluid, being in due proportion, keeps the parts of the flesh and blood at such a just distance from each other, as that the flesh and nerves are supple, and the blood fit for circulation. If part of this due proportion of fire be conducted away, by means of a contact with other bodies, as air, water, or metals, the parts of our skin and flesh that come into such contact first draw more near together than is agreeable, and give that sensation which we call cold; and if too much be conveyed away, the body stiffens, the blood ceases to flow, and death ensues. On the other hand, if too much of this fluid be communicated to the flesh, the parts are separated too far, and pain ensues, as when they are separated by a pin or lancet. The sensation, that the separation by fire occasions, we call heat, or burning. My desk on which I now write, and the lock of my desk, are both exposed to the same temperature of the air, and have therefore the same degree of heat or cold; yet if I lay my hand successively on the wood and on the metal, the latter feels much the coldest, not that it is really so, but, being a better conductor, it more readily than the wood takes away and draws into itself the fire that was in my skin. Accordingly if I lay one hand, part on the lock, and part on the wood, and, after it has lain so some time, I feel both Parts with my other Hand, I find that Part that has been in Contact with the Lock, very sensibly colder to the Touch, than the Part that lay on the Wood. How a living Animal obtains its Quantity of this Fluid, called Fire, is a curious Question. I have shewn, that some Bodies (as Metals) have a Power of attracting it stronger than others; and I have sometimes suspected, that a living Body had some Power of attracting out of the Air, or other Bodies, the Heat it wanted. Thus Metals hammered, or repeatedly bent grow hot in the bent or hammer'd part. But when I consider that Air, in Contact with the Body, cools it; that the surrounding Air is rather heated by its Contact with the Body; that every breath of cooler Air, drawn in, carries off Part of the Body's Heat when it passes out again; that therefore there must be some Fund in the Body for producing it, or otherwise the Animal would soon grow cold; I have been rather inclined to think, that the Fluid *Fire*, as well as the Fluid *Air*, is attracted by Plants in their Growth, and becomes consolidated with the other Materials of which they are formed, and makes a great Part of their Substance. That, when they come to be digested, and to suffer in the Vessels a kind of Fermentation, part of the Fire, as well as part of the Air, recovers its fluid, active State again, and diffuses itself in the Body digesting and separating it. That the Fire, so reproduced by Digestion and Separation, continually leaving the Body, its Place is supplied by fresh Quantities, arising from the continual Separation. That whatever quickens the Motion of the Fluids in an Animal quickens the Separation, and reproduces more of the Fire, as Exercise. That all the Fire emitted by Wood and other Combustibles when burning existed in them before in a solid State, being only discover'd when separating. That some Fossils, as Sulphur, Sea-Coal, &c., contain a great deal of solid Fire. And that in short, what escapes and is dissipated in the burning of Bodies, besides Water and Earth, is generally the Air and Fire that before made Parts of the Solid. Thus I imagine, that Animal Heat arises by or from a kind of Fermentation in the Juices of the Body, in the same manner as Heat arises in the Liquors preparing for Distillation, wherein there is a Separation of the Spirituous, from the Watery and Earthy Parts. And it is remarkable, that the Liquor in a Distiller's Vat, when in its highest and best State of Fermentation, as I have been inform'd, has the same Degree of Heat with the Human Body, that is about 94 or 96.

Thus, as by a constant supply of Fuel in a Chimney, you keep a warm Room, so, by a constant supply of Food in the Stomach, you keep a warm Body; only where little Exercise is used, the Heat may possibly be conducted away too fast; in which Case such Materials are to be used for Cloathing and Bedding, against the Effects of an immediate contact of the Air, as are, in themselves, bad Conductors of Heat, and, consequently prevent its being communicated thro' their Substances to the Air. Hence what is called *Warmth* in Wool, and its Preference, on that Account, to Linnen; Wool not being so good a Conductor. And hence all the natural Coverings of Animals, to keep them warm, are such as retain and confine the natural Heat in the Body by being bad Conductors, such as Wool, Hair, Feathers, and the Silk by which the Silk-Worm, in its tender embrio State, is first cloathed. Cloathing thus considered does not make a Man warm by *giving* Warmth, but by *preventing* the too quick dissipation of the Heat produced in his Body, and so occasioning an Accumulation.

There is another curious Question I will just venture to touch upon, viz. Whence arises the sudden extraordinary Degree of Cold, perceptible on mixing some chymical Liquors, and even on mixing Salt and Snow, where the Composition appears colder than the coldest of the Ingredients? I have never seen the chymical Mixtures made; but Salt and Snow I have often mixed myself, and am fully satisfied that the Composition feels much colder to the Touch, and lowers the Mercury in the Thermometer more, than either Ingredient would do separately. I suppose, with others, that Cold is nothing more than the Absence of Heat or Fire. Now if the Quantity of Fire before contained or diffused in the Snow and Salt was expell'd in the uniting of the two Matters, it must be driven away either thro' the Air or the Vessel containing them. If it is driven off thro' the Air, it must warm the Air; and a Thermometer held over the Mixture, without touching it, would discover the Heat, by the rising of the Mercury, as it must, and always does, in warmer Air.

This indeed I have not try'd but I should guess it would rather be driven off thro' the Vessel, especially if the Vessel be Metal, as being a better Conductor than Air, and so one should find the Bason warmer after such Mixture. But on the Contrary the Vessel grows cold, and even Water, in which the Vessel is sometimes placed for the Experiment, freezes into hard Ice on the Bason. Now I know not how to account for this, otherwise than by supposing, that the Composition is a better Conductor of Fire than the Ingredients separately and like the Lock compar'd with the Wood, has a stronger Power of Attracting Fire, and does accordingly attract it suddenly from the Fingers, or a Thermometer put into it, from the Bason that contains it, and from the Water in Contact with the outside of the Bason; so that the Fingers have the Sensation of extreme Cold, by being depriv'd of much of their natural Fire; the Thermometer sinks, by having part of its Fire drawn out of the Mercury; the Bason grows colder to the Touch, as by having its Fire drawn into the Mixture, it is become more capable of drawing and receiving it from the Hand, and thro' the Bason, the Water loses its Fire that kept it fluid; so it becomes Ice. One would expect, that from all this attracted Acquisition of Fire to the Composition, it should become warmer; and, in Fact, the Snow and Salt dissolve at the same time into Water, without freezing.

I doubt whether I have in all this talk'd intelligibly; and indeed how should a Man do so that does not himself clearly understand the Thing he talks of? This I confess to be my present Case. I intended to amuse you, but I fear I have done more and tired you. Be so good as to excuse it, and believe me with sincere Esteem and Respect, Sir

Your etc

B. FRANKLIN

248. TO MRS. JANE MECOM[1]

New York, April 19, 1757.

DEAR SISTER,

I wrote a few lines to you yesterday, but omitted to answer yours, relating to sister Dowse. As *having their own way* is one of the greatest comforts of life to old people, I think their friends should endeavour to accommodate them in that, as well as in any thing else. When they have long lived in a house, it becomes natural to them; they are almost as closely connected with it, as the tortoise with his shell; they die, if you tear them out of it; old folks and old trees, if you remove them, it is ten to one that you kill them; so let our good old sister be no more importuned on that head. We are growing old fast ourselves, and shall expect the same kind of indulgences; if we give them, we shall have a right to receive them in our turn.

And as to her few fine things, I think she is in the right not to sell them, and for the reason she gives, that they will fetch but little; when that little is spent, they would be of no further use to her; but perhaps the expectation of possessing them at her death may make that person tender and careful of her, and helpful to her to the amount of ten times their value. If so, they are put to the best use they possibly can be.

I hope you visit sister as often as your affairs will permit, and afford her what assistance and comfort you can in her present situation. *Old age, infirmities*, and *poverty*, joined, are afflictions enough. The *neglect* and *slights* of friends and near relations should never be added. People in her circumstances are apt to suspect this sometimes without cause; *appearances* should therefore be attended to, in our conduct towards them, as well as *realities*. I write by this post to cousin Williams, to continue his care, which I doubt not he will do.

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[1] From "A Collection of the Familiar Letters of Benjamin Franklin," Boston, 1833, p. 50. — ED.

We expect to sail in about a week, so that I can hardly hear from you again on this side the water; but let me have a line from you now and then, while I am in London. I expect to stay there at least a twelvemonth. Direct your letters to be left for me at the Pennsylvania Coffee-house, in Birchin Lane, London. My love to all, from, dear sister, your affectionate brother,

B. FRANKLIN.

P. S. April 25th. We are still here, and perhaps may be here a week longer. Once more adieu, my dear sister.

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249. MRS. DEBORAH FRANKLIN (A. P. S.)

New York, April 29. 1757

MY DEAR CHILD

I wrote to you yesterday per Post. This is only to acquaint you, that I am determined against going in the first Pacquet.

Send me the Indian Sealskin Hussiff with all the Things that were in it. — It will be an acceptable Present to a Gimcrack great Man in London, that is my Friend. — In the right hand little Drawer under my Desk, is some of the Indian Lady's Gut-Cambrick; roll it up as you would a

Ribband; wrap it in Paper, and put it into the Houssiff with the other Things.

Among my Books on the Shelves, there are two or three little Pieces on the Game of Chess. One in French bound in Leather, 8vo — one in a blue Paper Cover, English; two others in Manuscript; one of them thin in brown Paper Cover, the other in loose Leaves not bound. If you can find them your self, send them: — But do not set anybody else to look for them. — You may know the French one, by the Word ECHECS in the Titlepage.

I wrote you fully about the Acct Books; so add only my Love to all Friends, from

Your affectionate Husband
B FRANKLIN

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250. TO MRS. JANE MECOM[1]

Woodbridge, New Jersey, May 21, 1757.

DEAR SISTER,

I received your kind letter of the 9th instant, in which you acquainted me with some of your late troubles. These are troublesome times to us all; but perhaps you have had more than you should. I am glad to hear, that Peter is at a place where he has full employ. A trade is a valuable thing; but, unless a habit of industry be acquired with it, it turns out of little use; if he gets *that* in his new place, it will be a happy exchange, and the occasion not an unfortunate one. It is very agreeable to me to hear so good an account of your other children; in such a number to have no bad ones is a great happiness.

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[1] From "A Collection of the Familiar Letters of Benjamin Franklin," Boston, 1833, p. 52. — ED.

The horse sold very low indeed. If I wanted one to-morrow, knowing his goodness, old as he is, I should freely give more than twice the money for him; but you did the best you could, and I will take of Benny no more than he produced.

I don't doubt but Benny will do very well when he gets to work; but I fear his things from England may be so long a coming, as to occasion the loss of the rent. Would it not be better for you to move into the house? Perhaps not, if he is near being married. I know nothing of that affair, but what you write me, except that I think Miss Betsey a very agreeable, sweet-tempered, good girl, who has had a housewifely education, and will make, to a good husband, a very good wife. Your sister and I have a great esteem for her; and, if she will be kind enough to accept of our nephew, we think it will be his own fault, if he is not as happy as the married state can make him. The family is a respectable one, but whether there be any fortune I know not; and, as you do not inquire about this particular, I suppose you think with me, that where every thing else desirable is to be met with, that is not very material. If she does not *bring* a fortune, she will help to *make* one. Industry, frugality, and prudent economy in a wife, are to a tradesman, in their effects, a fortune; and a fortune sufficient for Benjamin, if his expectations are reasonable. We can only add, that, if the young lady and her friends are willing, we give our consent heartily, and our blessing. My love to brother and the children. Your affectionate brother,

B. FRANKLIN.

P. S. If Benny will promise to be one of the tenderest husbands in the world, I give my consent. He knows already what I think of Miss Betsey. I am his loving aunt,

DEBORAH FRANKLIN.

251. TO MRS. DEBORAH FRANKLIN (A. P. S.)

New York, Friday, May 27, '57, Afternoon

MY DEAR DEBBY,

Mr. Parker being doubtful this Morning whether the Rain would permit his setting out to-day, I had prepared no Letter to send by Sally, when he took a sudden Resolution to go. Mr. Colden[1] could not spare his Daughter, as she helps him in the Post-Office, he having no Clerk. I inclose only the 4th Bills, which you are to put up safe with my Writings. The first Set I take with me, the second goes in Radford, and I now send the third by Bonnel.

All the Pacquets are to sail together with the Fleet, but when that will be is yet uncertain. For yesterday came in three Privateers with several Prizes, and by them there is Advice that the French Fleet, which was in the West Indies, is gone to the Northward; and now tis question'd whether it will be thought prudent for these Transports to sail till there is certain Advice, that the Grand Fleet is arrived from England. This, however, is only Town Talk.

I send Mr. Kneeland's Letter. Pray forward the Paper he writes for, by first Opportunity. I send a Memorandum rec'd from Joseph Crocker, with a Note on the Back of it. I leave it to yourself, whether to go home directly or stay a little longer. If I find we are not like to sail for some time,

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[1] Mr. Alexander Colden, who was postmaster in New York. — ED.

I shall perhaps stay down to Woodbridge, and try to finish my Work. But it may be that your longer Absence from home will be attended with some Inconvenience. I am making up a Bundle of Papers to send you. Put them into my Room. I can hear nothing yet of the cloaths.

I have been very low-spirited all Day. This tedious State of Uncertainty and long Waiting has almost worn out my Patience. Except the two or three Weeks at Woodbridge, I know not when I have spent time so uselessly, as since I left Philadelphia.

I left my best Spectacles on the Table. Please to send them to me.

Saturday Morning. — Jemmy got here early, and tells me Mr. Parker and the Children got well down. In my Room on the Folio Shelf between the Clock and our Bedchamber and not far from the Clock, stands a Folio, call'd the *Gardener's Dictionary, by P. Miller.* And on the same Side of the Room, on the Lowest Shelf or lowest but one, near the Middle, and by the Side of a little Partition, you will find standing or rather lying on its fore Edge a Quarto Pamphlet, cover'd with blue Paper, call'd a *Treatise of Cyder-making.* Deliver those two Books to Mr. Parker.

Sunday Afternoon. — Yesterday, while I was at my Lord's,[1] with whom I had the honour to dine, Word was brought in that 5 Sail of French Men-of-War were seen off Egg Harbour the Day before; and, as some of the French Prisoners lately brought in in the prizes report, that such a Number of Men-of-War sailed with them from the West Indies to go to the Northward, it might be suppos'd to be them if the Acc't from Egg Harbour was true. If on Examination it should be found true, and the French take it in their Heads to cruize off this Port with such a Force, we shall then be shut up here for some time, for our Fleet here is not of Force sufficient to venture out. If this story be not true, yet 'tis thought by some we shall hardly sail till there is certain Advice of the English Fleet's being arriv'd at Halifax, and perhaps not till a Convoy comes from thence to guard us. So I am wavering whether I had not best go down again to Woodbridge and finish my Books.

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[1] Lord Loudoun, who had lately arrived as commander-in-chief in America, being successor to General Shirley. — ED.

I spent the evening last Night with Mr. Nichol's Family, who all desired their Compliments to you and Sally. I send you one of the French Books translated.

Monday Morning. — Our going is yet uncertain. I believe I shall put every thing on board to-morrow, and either go down again to Woodbridge or send for the Trunk of Books hither to employ myself till we have sailed.[1] The report of French men-of-war off the coast is vanished. I am, my dear Debby, your ever loving husband,

B. FRANKLIN.

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252. TO ISAAC NORRIS[2] (A. P. S.)

New York, May 30, 1757.

SIR,

After waiting here above Seven Weeks for the Sailing of the Pacquet, the Time of her Departure is no more ascertain'd now than it was the Day of our Arrival. The Pacquets, it is now said, are all three to sail with the Fleet;

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[1] A paragraph omitted — paper torn. — ED.

[2] For many years Speaker of the Assembly in Pennsylvania.

the two first to be dismiss'd soon after the Fleet is at Sea; the third to go with the Fleet to the Place of Rendezvous, and not to be discharg'd till the Arrival and Junction of the Fleet from England. But this is not certain: Resolutions change as Advices are receiv'd, or Occurrences arise, And it is doubted whether the Fleet will sail from hence till there is certain News of the Arrival of that from England, since there is Intelligence that Beaufremont's Squadron is gone from the West Indies to the Northward.

I have had the Hon^{r} of several Conferences with my Lord [Loudoun], on the Subject of the Servants.[1] His L^{p} objects, first, that it appears by the List, which I laid before him, that many of the Servants were inlisted in General Braddock and Gen. Shirley's time; with those he has nothing to do. 2dly, that many were inlisted before the Act of Parliament appointed Satisfaction to be made to the Masters; and as all the lawyers agree that the Right to take them without Pay was clearly in the King before the Act, no Satisfaction should be made or expected for these. 3d, that the particular Proofs of the Loss of each Servant, and of his being enlisted in the K's Service, do not appear. 4th, that the Affair is now so intricate and perplex'd, that it would take more time to examine and settle it, than he can possibly spare. 5th, That if his Officers had done wrong in not paying for the

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[1] It was common for emigrants, of the poorer class, to pay for their passage by selling their time for a certain number of years to the captain, in whose ship they came over. The time, or term of service, thus pledged, was sold by the captain, after his arrival in port, to farmers in the country. During the war, it had been a practice of the recruiting officers to enlist these servants into the army, thus depriving the farmers of their services, and of the value that had been paid for them. Redress was sought from the government, and Franklin was instructed to lay the subject before Lord Loudoun, the commander-in-chief of the army. — S.

Servants, as they took them, the Fault was our own; it was owing to some principal People among ourselves, whom he could name, who had always assur'd the Officers, the Assembly intended to pay for the Servants, and by that means led them into the Error.

His Lordship made several other Observations and Objections, all which I answered and endeavoured to remove as well as I could; but there is, I believe, one at Bottom, which it is not in my Power to remove, and that is the Want of Money. The Expences of an American War necessarily run very high, and are complain'd of by some in England; and his Lordship is unwilling to discourage the Ministry at home by large charges. He will therefore mix none of those of his Predecessors with his own, he makes the most frugal Agreements, and avoids all Payments, that he can avoid with Honour. For Instance, there is a Ballance not very large due to me, on my Acc't of Waggons and Forage supply'd to General Braddock. I presented the Account to his Lordship, who had it examin'd and compar'd with the Vouchers; and, on Report made to him that it was right, order'd a Warrant to be drawn for the Payment. But before he sign'd it, he sent for me, told me that as the Money became due before his time, he had rather not mix it in his Accounts, if it would be the same thing to me to receive it in England. He believed it a fair and just Acc't, and as such would represent it home, so that I should meet with no Difficulty in getting it paid there. I agred to his L$^{p's}$ Proposal, and the Warrant was laid aside.

I once propos'd to his L^{p}, that, if he would appoint, or desire Gov. Denny to appoint, some Persons of Credit in Pensilvania to examine the Claims of the Masters, and report to his L^p at the End of the Campaign, it might for the present make the Minds of the Sufferers more easy; and he could then order Payment for such Part as he should find right for him to pay, and we might endeavour to procure Satisfaction elsewhere for the rest. His L^p declin'd this, saying, that he knew not who to appoint, being unacquainted with the People; that he did not care to trouble Gov^r Denny with it, of whom he must ask it as a Favour; and besides, Auditors, in the Plantations, of Acc^{ts} against the Crown had in many Instances been so shamefully partial and corrupt, that they had lost all Credit. If he appointed Auditors, they must be some of the Officers of the Army, who understood the Affair; and at present they were engag'd in other Duty.

I will not trouble you with a Detail of all I said to his L^p on this Affair, tho' I omitted nothing material that occurr'd to me; but I find he is for keeping the Matter in suspense, without either promising Payment or refusing to pay; perhaps till he receives Directions about it from home. He does not seem willing, however, that I should make any Application there relating to it, and chuses to keep the List in his Hands, till his Return from the Campaign.

The List is, indeed, so very imperfect, that I could not promise myself much in laying it before him. Of many Servants it is not noted by what Officers, or in what Company, or even in what Regiment they were inlisted; of others, the Time they were bound for, or had served, or had still to serve, is omitted: Of others, no Notice is taken of the Price they cost; nor is there any Distinction of Apprentices; tho' perhaps the Account is the best that could be obtained, the Time and other Circumstances considered. Upon the whole, as the Enquiry, if it is ever made by my Lord's Order, will be by Officers of the Army, they being, in his L^{ps} Opinion the fittest Persons and most impartial; as all Inlistments before the Commencement of his Command will be rejected, and also all before the Act of Parliament: As very clear Proofs of every Circumstance, when the Servant was inlisted, by what Officer, of what Regiment, and the like, will be insisted on, and the Recruiting Officers at the Time took such effectual Care to prevent the Master's knowing any thing of these Circumstances; I am enclined to think very little Benefit will be produc'd by such Enquiry; and that our Application home for some Allowance on that Account will be better founded on what the Assembly, after their own Enquiry, have thought themselves oblig'd to pay, than on such an imperfect List as has been sent me. This, however, I submit. And if it should still be thought proper to apply in England on the Footing of the List, another Copy must be forwarded by some future Opportunity.

His Lordship has on all Occasions treated me with the greatest Goodness, but I find frequently, that wrong Prejudices are infus'd into his Mind against our Province. We have too many Enemies among ourselves; but I hope in time Things will wear a better Face. Please to present my humble Respects to the House, and believe me, with great Esteem, &c.

B. FRANKLIN.

253. TO MRS. JANE MECOM[1]

New York, May 30, 1757.

DEAR SISTER,

I have before me yours of the 9th and 16th instant. I am glad you have resolved to visit sister Dowse oftener; it will be a great comfort to her to find she is not neglected by you, and your example may, perhaps, be followed by some others of her relations.

As Neddy is yet a young man, I hope he may get over the disorder he complains of, and in time wear it out. My love to him and his wife, and the rest of your children. It gives me pleasure to hear, that Eben is likely to get into business at his trade. If he will be industrious and frugal, it is ten to one but he gets rich, for he seems to have spirit and activity.

I am glad that Peter is acquainted with the crown-soap business so as to make what is good of the kind. I hope he will always take care to make it faithfully, and never slight the manufacture, or attempt to deceive by appearances. Then he may boldly put his name and mark, and in a little time it will acquire as good a character, as that made by his late uncle, or any other person whatever. I believe his aunt at Philadelphia can help him to sell a good deal of it; and I doubt not of her doing every thing in her power to promote his interest in that way. Let a box be sent to her (but not unless it be right good) and she will immediately return the ready money for it. It was beginning once to be in vogue in Philadelphia, but brother John sent me one box, an ordinary sort, which checked its progress. I would not have him put the Franklin arms on it; but the soapboilers' arms he has a right to use, if he thinks fit. The other would look too much like an attempt to counterfeit. In his advertisements, he may value himself on serving his time with the original maker, but put his own mark or device on the papers, or any thing he may be advised to as proper; only on the soap, as it is called by the name of crown-soap, it seems necessary to use a stamp of that sort, and perhaps no soapboiler in the King's dominions has a better right to the crown than himself.

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[1] From "A Collection of the Familiar Letters of Benjamin Franklin," Boston, 1833, p. 54. — ED.

Nobody has wrote a syllable to me concerning his making use of the hammer, or made the least complaint of him or you. I am sorry, however, that he took it without leave. It was irregular, and if you had not approved of his doing it, I should have thought it indiscreet. *Leave*, they say, *is light*, and it seems to me a piece of respect that was due to his aunt, to ask it, and I can scarce think she would have refused him the favour.

I am glad to hear Johnny is so good and diligent a workman. If he ever sets up at the goldsmith's business, he must remember, that there is one accomplishment without which he cannot possibly thrive in that trade, that is, *perfect honesty*. It is a business, that, though ever so uprightly managed, is always liable to suspicion; and if a man is once detected in the smallest fraud, it soon becomes public, and every one is put upon his guard against him; no one will venture to try his wares, or trust him to make up his plate; so at once he is ruined. I hope my nephew will, therefore, establish a character as an *honest* and faithful, as well as *skilful* workman, and then he need not fear for employment.

And now, as to what you propose for Benny, I believe he may be, as you say, well enough qualified for it; and, when he appears to be settled, if a vacancy should happen, it is very probable he may be thought of to supply it; but it is a rule with me not to remove any officer, that behaves well, keeps regular accounts, and pays duly; and I think the rule is founded on reason and justice. I have not shown any backwardness to assist Benny, where it could be done without injuring another. But if my friends require of me to gratify not only their inclinations, but their resentments, they expect too much of me. Above all things I dislike family quarrels, and, when they happen among my relations, nothing gives me more pain. If I were to set myself up as a judge of those subsisting between you and brother's widow and children, how unqualified must I be, at this distance, to determine rightly, especially having heard but one side. They always treated me with friendly and affectionate regard; you have done the same. What can I say between you, but that I wish you were reconciled, and that I will love that side best, that is most ready to forgive and oblige the other? You will be angry with me here, for putting you and them too much upon a footing; but I shall nevertheless be, dear sister, your truly affectionate brother,

B. FRANKLIN.

254. TO MRS. DEBORAH FRANKLIN (A. P. S.)

New York, June 2, 1757.

MY DEAR CHILD,

I have just received yours of the 29th. . . . You do not tell me whether you take the Trunk of Books with you, but I suppose you do. It is now said we are all to go on board to-morrow, and fall down to the Hook. I hope it will be so, for, having now nothing to do, my Stay here is extremely tedious. Please to give my respects to Mrs. Moore, and assure her that I will take care of her Letters. You will find sundry Parcels that came from London, some directed to the Library Company, some for Mr. Bartram. Deliver them, if not deliver'd. . . . Desire Mr. Normandy to send after me a fresh Memorandum [of what] he wanted, Mr. Collinson having lost the former.

I hope my dear Sally will behave in every thing to your satisfaction, and mind her Learning and Improvement. As my Absence will make your House quieter, and lessen your Business, you will have the more Leisure to instruct her and form her. I pray God to bless you both, and that we may once more have a happy Meeting. God preserve, guard, and guide you.

It is a doubt whether your next Letters will reach us here. Billy joins with me in Love to all Friends, and presents his Duty to you and Love to his Sister. My Duty to mother and Love to all the Family. I shall endeavour to write to you once more before we sail, being as ever, my dear Child, your truly affectionate husband,

B. FRANKLIN.

255. A STRIKING SUN DIAL[1]

How to make a Striking Sun Dial, by which not only a Man's own Family, but all his Neighbours for ten Miles round, may know what a Clock it is, when the Sun shines, without seeing the Dial.

Chuse an open Place in your Yard or Garden, on which the Sun may shine all Day without any Impediment from Trees or Buildings.

On the Ground mark out your Hour Lines, as for a horizontal Dial, according to Art, taking Room enough for the Guns. On the Line for One o'Clock, place one Gun ; on the Two o'Clock Line two Guns, and so of the rest. The Guns must all be charged with Powder, but Ball is unnecessary. Your Gnomon or Style must have twelve burning Glasses annex't to it, and be so placed that the Sun shining through the Glasses, one after the other, shall cause the Focus or burning Spot to fall on the Hour Line of One, for Example, at One a Clock, and there kindle a Train of Gunpowder that shall fire one Gun. At Two a Clock, a Focus shall fall on the Hour Line of Two, and kindle another Train that shall discharge two Guns successively : and so of the rest.

Note, There must be 78 Guns in all. Thirty-two Pounders will be best for this Use ; but 18 Pounders may do, and will cost less, as well as use less Powder, for nine Pounds of Powder will do for one Charge of each eighteen Pounder, whereas the Thirty-two Pounders would require for each Gun 16 Pounds.

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[1] From "Poor Richard Improved: 1757."

Note also, That the chief Expense will be the Powder, for the Cannon once bought, will, with Care, last 100 Years.

Note moreover, that there will be a great Saving of Powder in Cloudy Days.

Kind Reader, Methinks I hear thee say, That is indeed a good Thing to know how the Time passes, but this Kind of Dial, notwithstanding the mentioned Savings, would be very Expensive; and the Cost greater than the Advantage, Thou art wise, my Friend, to be so considerate beforehand; some Fools would not have found out so much, till they had made the Dial and try'd it. . . . Let all such learn that many a private and many a publick Project, are like this Striking Dial, great Cost for little Profit.

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256. THE WAY TO WEALTH

PREFACE TO POOR RICHARD IMPROVED: 1758.

COURTEOUS READER

I have heard that nothing gives an Author so great Pleasure, as to find his Works respectfully quoted by other learned Authors. This Pleasure I have seldom enjoyed; for tho' I have been, if I may say it without Vanity, an *eminent Author* of Almanacks annually now a full Quarter of a Century, my Brother Authors in the same Way, for what Reason I know not, have ever been very sparing in their Applauses, and no other Author has taken the least Notice of me, so that did not my Writings produce me some solid *Pudding*, the great Deficiency of *Praise* would have quite discouraged me.

I concluded at length, that the People were the best Judges of my Merit; for they buy my Works; and besides, in my Rambles, where I am not personally known, I have frequently heard one or other of my Adages repeated, with, *as Poor Richard says*, at the End on 't; this gave me some Satisfaction, as it showed not only that my Instructions were regarded, but discovered likewise some Respect for my Authority; and I own, that to encourage the Practice of remembering and repeating those wise Sentences, I have sometimes *quoted myself* with great Gravity.

Judge, then how much I must have been gratified by an Incident I am going to relate to you. I stopt my Horse lately where a great Number of People were collected at a Vendue of Merchant Goods. The Hour of Sale not being come, they were conversing on the Badness of the Times and one of the Company call'd to a plain clean old Man, with white Locks, "Pray, Father Abraham, what think you of the Times? Won't these heavy Taxes quite ruin the Country? How shall we be ever able to pay them? What would you advise us to?" Father *Abraham* stood up, and reply'd, "If you'd have my Advice, I'll give it you in short, for *A Word to the Wise is enough*, and *many Words won't fill a Bushel*, as *Poor Richard* says." They join'd in desiring him to speak his Mind, and gathering round him, he proceeded as follows;

"Friends," says he, and Neighbours, "the Taxes are indeed very heavy, and if those laid on by the Government were the only Ones we had to pay, we might more easily discharge them; but we have many others, and much more grievous to some of us. We are taxed twice as much by our *Idleness*, three times as much by our *Pride*, and four times as much by our *Folly;* and from these Taxes the Commissioners cannot ease or deliver us by allowing an Abatement. However let us hearken to good Advice, and something may be done for us; *God helps them that help themselves*, as *Poor Richard* says, in his Almanack of 1733.

It would be thought a hard Government that should tax its People one-tenth Part of their *Time*, to be employed in its Service. But *Idleness* taxes many of us much more, if we reckon all that is spent in absolute *Sloth*, or doing of nothing, with that which is spent in idle Employments or Amusements, that amount to nothing. *Sloth*, by bringing on Diseases, absolutely shortens Life. *Sloth, like Rust, consumes faster than Labour wears; while the used Key is always bright*, as *Poor Richard* says. *But dost thou love Life, then do not squander Time, for that's the stuff Life is made of*, as *Poor Richard* says. How much more than is necessary do we spend in sleep, forgetting that *The sleeping Fox catches no Poultry*, and that *There will be sleeping enough in the Grave*, as *Poor Richard* says.

If Time be of all Things the most precious, wasting Time must be, as *Poor Richard* says, *the greatest Prodigality;* since, as he elsewhere tells us, *Lost Time is never found again; and what we call Time enough, always proves little enough:* Let us then up and be doing, and doing to the Purpose; so by Diligence shall we do more with less Perplexity. *Sloth makes all Things difficult, but Industry all easy*, as *Poor Richard* says; and *He that riseth late must trot all Day, and shall scarce overtake his Business at Night;* while *Laziness travels so slowly, that Poverty soon overtakes* *him*, as we read in *Poor Richard*, who adds, *Drive thy Business, let not that drive thee;* and *Early to Bed, and early to rise, makes a Man healthy, wealthy, and wise.*

So what signifies *wishing* and *hoping* for better Times. We may make these Times better, if we bestir ourselves. *Industry need not wish*, as *Poor Richard* says, *and he that lives upon Hope will die fasting. There are no Gains without Pains; then Help Hands, for I have no Lands*, or if I have, they are smartly taxed. And, as *Poor Richard* likewise observes, *He that hath a Trade hath an Estate; and he that hath a Calling, hath an Office of Profit and Honour;* but then the *Trade* must be worked at, and the *Calling* well followed, or neither the *Estate* nor the *Office* will enable us to pay our Taxes. If we are industrious, we shall never starve; for, as *Poor Richard* says, *At the working Man's House Hunger looks in, but dares not enter.* Nor will the Bailiff or the Constable enter, for *Industry pays Debts, while Despair encreaseth them*, says *Poor Richard.* What though you have found no Treasure, nor has any rich Relation left you a Legacy, *Diligence is the Mother of Good-luck* as *Poor Richard* says *and God gives all Things to Industry. Then plough deep, while Sluggards sleep, and you shall have Corn to sell and to keep*, says *Poor Dick.* Work while it is called To-day, for you know not how much you may be hindered To-morrow, which makes *Poor Richard* say, *One to-day is worth two To-morrows*, and farther, *Have you somewhat to do To-morrow, do it To-day.* If you were a Servant, would you not be ashamed that a good Master should catch you idle? Are you then your own Master, *be ashamed to catch yourself idle*, as *Poor Dick* says. When there is so much to be done for yourself, your

Family, your Country, and your gracious King, be up by Peep of Day; *Let not the Sun look down and say, Inglorious here he lies.* Handle your Tools without Mittens; remember that *The Cat in Gloves catches no Mice*, as *Poor Richard* says. 'Tis true there is much to be done, and perhaps you are weak-handed, but stick to it steadily; and you will see great Effects, for *Constant Dropping wears away Stones*, and by *Diligence and Patience the Mouse ate in two the Cable;* and *Little Strokes fell great Oaks*, as *Poor Richard* says in his Almanack, the Year I cannot just now remember.

Methinks I hear some of you say, *Must a Man afford himself no Leisure?* I will tell thee, my friend, what *Poor Richard* says, *Employ thy Time well, if thou meanest to gain Leisure; and, since thou art not sure of a Minute, throw not away an Hour.* Leisure, is Time for doing something useful; this Leisure the diligent Man will obtain, but the lazy Man never; so that, as *Poor Richard* says *A Life of Leisure and a Life of Laziness are two Things.* Do you imagine that Sloth will afford you more Comfort than Labour? No, for as *Poor Richard* says, *Trouble springs from Idleness, and grievous Toil from needless Ease. Many without Labour, would live by their Wits only, but they break for want of Stock.* Whereas Industry gives Comfort, and Plenty, and Respect: *Fly Pleasures, and they'll follow you. The diligent Spinner has a large Shift; and now I have a Sheep and a Cow, everyBody bids me good Morrow;* all which is well said by *Poor Richard.*

But with our Industry, we must likewise be *steady, settled,* and *careful*, and oversee our own Affairs *with our own Eyes,* and not trust too much to others; for, as *Poor Richard* says

I never saw an oft-removed Tree,
Nor yet an oft-removed Family,
That throve so well as those that settled be.

And again, *Three Removes is as bad as a Fire;* and again, *Keep thy Shop, and thy Shop will keep thee;* and again, *If you would have your Business done, go; if not, send.* And again,

He that by the Plough would thrive,
Himself must either hold or drive.

And again, *The Eye of a Master will do more Work than both his Hands;* and again, *Want of Care does us more Damage than Want of Knowledge;* and again, *Not to oversee Workmen, is to leave them your Purse open.* Trusting too much to others' Care is the Ruin of many; for, as the Almanack says, *In the Affairs of this World, Men are saved, not by Faith, but by the Want of it;* but a Man's own Care is profitable; for, saith *Poor Dick, Learning is to the Studious*, and *Riches to the Careful*, as well as *Power to the Bold*, and *Heaven to the Virtuous*, And farther, *If you would have a faithful Servant, and one that you like, serve yourself.* And again, he adviseth to Circumspection and Care, even in the smallest Matters, because sometimes *A little Neglect may breed great Mischief;* adding, *for want of a Nail the Shoe was lost; for want of a Shoe the Horse was lost; and for want of a Horse the Rider was lost, being overtaken and slain by the Enemy; all for want of Care about a Horse-shoe Nail.*

So much for Industry, my Friends, and Attention to one's own Business; but to these we must add *Frugality*, if we would make our *Industry* more certainly successful. A Man may, if he knows not how to save as he gets, *keep his Nose all his Life to the Grindstone*, and die not worth a

Groat at last. *A fat Kitchen makes a lean Will*, as *Poor Richard* says; and

> *Many Estates are spent in the Getting,*
> *Since Women for Tea forsook Spinning and Knitting,*
> *And Men for Punch forsook Hewing and Splitting.*

If you would be wealthy, says he, in another Almanack, *think of Saving as well as of Getting: The Indies have not made Spain rich, because her Outgoes are greater than her Incomes.*

Away then with your expensive Follies, and you will not then have so much Cause to complain of hard Times, heavy Taxes, and chargeable Families; for, as *Poor Dick* says,

> *Women and Wine, Game and Deceit,*
> *Make the Wealth small and the Wants great.*

And farther, *What maintains one Vice, would bring up two Children.* You may think perhaps, that a *little* Tea, or a *little* Punch now and then, Diet a *little* more costly, Clothes a *little* finer, and a *little* Entertainment now and then, can be no *great* Matter; but remember what *Poor Richard* says, *Many a Little makes a Mickle;* and farther, Beware of little *Expences; A small Leak will sink a great Ship;* and again, *Who Dainties love, shall Beggars prove;* and moreover, *Fools make Feasts, and wise Men eat them.*

Here you are all got together at this Vendue of *Fineries* and *Knicknacks*. You call them *Goods;* but if you do not take Care, they will prove *Evils* to some of you. You expect they will be sold *cheap*, and perhaps they may for less than they cost; but if you have no Occasion for them, they must be *dear* to you. Remember what *Poor Richard* says; *Buy what thou hast no Need of, and ere long thou shalt sell* *thy Necessaries.* And again, *At a great Pennyworth pause a while:* He means, that perhaps the Cheapness is *apparent* only, and not *Real;* or the bargain, by straitening thee in thy Business, may do thee more Harm than Good. For in another Place he says, *Many have been ruined by buying good Pennyworths.* Again, *Poor Richard* says, 'tis *foolish to lay out Money in a Purchase of Repentance;* and yet this Folly is practised every Day at Vendues, for want of minding the Almanack. *Wise Men*, as *Poor Dick* says, *learn by others Harms, Fools scarcely by their own;* but *felix quem faciunt aliena pericula cautum.* Many a one, for the Sake of Finery on the Back, have gone with a hungry Belly, and half-starved their Families. *Silks and Sattins, Scarlet and Velvets,* as *Poor Richard* says, *put out the Kitchen Fire.*

These are not the *Necessaries* of Life; they can scarcely be called the *Conveniences;* and yet only because they look pretty, how many *want* to *have* them! The *artificial* Wants of Mankind thus become more numerous than the *Natural;* and, as *Poor Dick* says, *for one poor Person, there are an hundred indigent.* By these, and other Extravagancies, the Genteel are reduced to poverty, and forced to borrow of those whom they formerly despised, but who through Industry and Frugality have maintained their Standing; in which Case it appears plainly, that *A Ploughman on his Legs is higher than a Gentleman on his Knees,* as *Poor Richard* says. Perhaps they have had a small Estate left them, which they knew not the Getting of; they think, *'tis Day, and will never be Night;* that a little to be spent out of *so much*, is not worth minding; *a Child and a Fool*, as *Poor Richard* says, *imagine Twenty shillings and Twenty Years can never be spent* but, *always taking out of* *the Meal-tub, and never putting in, soon comes to the Bottom;* as *Poor Dick* says, *When the Well's dry, they know the Worth of Water.* But this they might have known before, if they had taken his Advice; *If you would know the Value of Money, go and try to borrow some; for, he that goes a borrowing goes a sorrowing;* and indeed so does he that lends to such People, when he goes *to get it in again. Poor Dick* farther advises, and says,

Fond Pride of Dress is sure a very Curse;
E'er Fancy you consult, consult your Purse.

And again, *Pride is as loud a Beggar as Want, and a great deal more saucy.* When you have bought one fine Thing, you must buy ten more, that your Appearance may be all of a Piece; but *Poor Dick* says, *'Tis easier to suppress the first Desire, than to satisfy all that follow it.* And 'tis as truly Folly for the Poor to ape the Rich, as for the Frog to swell, in order to equal the ox.

Great Estates may venture more,
But little Boats should keep near Shore.

'Tis, however, a Folly soon punished; for *Pride that dines on Vanity, sups on Contempt,* as *Poor Richard* says. And in another Place, *Pride breakfasted with Plenty, dined with Poverty, and supped with Infamy.* And after all, of what Use is this *Pride of Appearance,* for which so much is risked so much is suffered? It cannot promote Health, or ease Pain; it makes no Increase of Merit in the Person, it creates Envy, it hastens Misfortune.

What is a Butterfly? At best
He's but a Caterpillar drest
The gaudy Fop's his Picture just,

as *Poor Richard* says.

But what Madness must it be to *run in Debt* for these Superfluities! We are offered, by the Terms of this Vendue, *Six Months' Credit;* and that perhaps has induced some of us to attend it, because we cannot spare the ready Money, and hope now to be fine without it. But, ah, think what you do when you run in Debt; *you give to another Power over your Liberty.* If you cannot pay at the Time, you will be ashamed to see your Creditor; you will be in Fear when you speak to him; you will make poor pitiful sneaking Excuses, and by Degrees come to lose your Veracity, and sink into base downright lying; for, as *Poor Richard* says *The second Vice is Lying, the first is running in Debt.* And again, to the same Purpose, *Lying rides upon Debt's Back.* Whereas a free-born *Englishman* ought not to be ashamed or afraid to see or speak to any Man living. But Poverty often deprives a Man of all Spirit and Virtue: *'Tis hard for an empty Bag to stand upright*, as *Poor Richard* truly says.

What would you think of that Prince, or that Government, who should issue an Edict forbidding you to dress like a Gentleman or a Gentlewoman, on Pain of Imprisonment or Servitude? Would you not say, that you were free, have a Right to dress as you please, and that such an Edict would be a Breach of your Privileges, and such a Government tyrannical? And yet you are about to put yourself under that Tyranny, when you run in Debt for such Dress! Your Creditor has Authority, at his Pleasure to deprive you of your Liberty, by confining you in Goal for Life, or to sell you for a Servant, if you should not be able to pay him! When you have got your Bargain, you may, perhaps, think little of Payment; but *Creditors*, *Poor Richard* tells us, *have better Memories than Debtors;* and in another Place says, *Creditors* *are a superstitious Sect, great Observers of set Days and Times.* The Day comes round before you are aware, and the Demand is made before you are prepared to satisfy it, Or if you bear your Debt in Mind, the Term which at first seemed so long, will, as it lessens, appear extreamly short. *Time* will seem to have added Wings to his Heels as well as Shoulders. *Those have a short Lent*, saith *Poor Richard, who owe Money to be paid at Easter.* Then since, as he says, *The Borrower is a Slave to the Lender, and the Debtor to the Creditor*, disdain the Chain, preserve your Freedom; and maintain your Independency: Be *industrious* and *free;* be *frugal* and *free.* At present, perhaps, you may think yourself in thriving Circumstances, and that you can bear a little Extravagance without Injury; but,

For Age and Want, save while you may;
No Morning Sun lasts a whole Day,

as *Poor Richard* says. Gain may be temporary and uncertain, but ever while you live, Expence is constant and certain; and *'tis easier to build two Chimnies, than to keep one in Fuel*, as *Poor Richard* says. So, *Rather go to Bed supperless than rise in Debt.*

Get what you can, and what you get hold;
'Tis the Stone that will turn all your lead into Gold,

as *Poor Richard* says. And when you have got the Philosopher's Stone, sure you will no longer complain of bad Times, or the Difficulty of paying Taxes.

This Doctrine, my Friends, is *Reason* and *Wisdom;* but after all, do not depend too much upon your own *Industry*, and *Frugality*, and *Prudence*, though excellent Things, for they may all be blasted without the Blessing of Heaven;

and therefore, ask that Blessing humbly, and be not uncharitable to those that at present seem to want it, but comfort and help them. Remember, *Job* suffered, and was afterwards prosperous.

And now to conclude, *Experience keeps a dear School, but Fools will learn in no other, and scarce in that;* for it is true, *we may give Advice, but we cannot give Conduct*, as *Poor Richard* says: However, remember this, *They that won't be counselled, can't be helped*, as *Poor Richard* says: and farther, That, *if you will not hear Reason, she'll surely rap your Knuckles*."

Thus the old Gentleman ended his Harangue. The People heard it, and approved the Doctrine, and immediately practised the contrary, just as if it had been a common Sermon; for the Vendue opened, and they began to buy extravagantly, notwithstanding, his Cautions and their own Fear of Taxes. I found the good Man had thoroughly studied my Almanacks, and digested all I had dropt on these Topicks during the Course of Five and twenty Years. The frequent Mention he made of me must have tired any one else, but my Vanity was wonderfully delighted with it, though I was conscious that not a tenth Part of the Wisdom was my own, which he ascribed to me, but rather the *Gleanings* I had made of the Sense of all Ages and Nations. However, I resolved to be the better for the Echo of it; and though I had at first determined to buy Stuff for a new Coat, I went away resolved to wear my old One a little longer. *Reader*, if thou wilt do the same, thy Profit will be as great as mine. I *am, as ever, thine to serve thee,*

RICHARD SAUNDERS.
July 7, 1757.

257. TO MRS. DEBORAH FRANKLIN (A. P. S.)

London, July 27. 1757

My dear Child,

We arrived here well last Night, only a little fatigued with the last Day's Journey, being 70 Miles. I write only this Line, not knowing of any Opportunity to send it; but Mr. Collinson will enquire for one, as he is going out. If he finds one, I shall write more largely. I have just seen Mr. Strahan, who is well with his Family. Billy is with me here at Mr. Collinson's, and presents his Duty to you and Love to his Sister. My Love to all. I am, my dear Child, your loving Husband.

B. Franklin.

P. S. Mr. Collinson says there was a Vessel going to New York, if not gone this Line will go by her.

258. TO MRS. DEBORAH FRANKLIN[1]

London, Nov. 22, 1757.

My dear Child,

During my illness, which continued near eight weeks, I wrote you several little letters, as I was able. The last was by the packet which sailed from Falmouth above a week since. In that I informed you, that my intermitting fever, which had continued to harass me, by frequent relapses, was gone off, and I have ever since been gathering strength and flesh. My doctor, Fothergill, who had forbid me the use of pen and ink, now permits me to write as much as I can without over fatiguing myself, and therefore I sit down to write more fully than I have hitherto been able to do.

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[1] From "The Works of Dr. Benjamin Franklin," 1817, Vol. VI, p. 20. — Ed.

The 2d of September I wrote to you, that I had had a violent cold and something of a fever, but that it was almost gone. However, it was not long before I had another severe cold, which continued longer than the first, attended by great pain in my head, the top of which was very hot, and when the pain went off, very sore and tender. These fits of pain continued sometimes longer than at others; seldom less than 12 hours, and once 36 hours. I was now and then a little delirious: they cupped me on the back of the head which seemed to ease me for the present; I took a great deal of bark, both in substance and infusion, and too soon thinking myself well, I ventured out twice, to do a little business and forward the service I am engaged in, and both times got fresh cold and fell down again; my good doctor grew very angry with me, for acting contrary to his cautions and directions, and obliged me to promise more observance for the future. He attended me very carefully and affectionately; and the good lady of the house nursed me kindly;[1] Billy was also of great service to me, in going from place to place, where I could not go myself, and Peter was very diligent and attentive. I took so much bark in various ways, that I began to abhor it; I durst not take a vomit, for fear of my head; but at last I was seized one morning with a vomiting and purging, the latter of which continued the greater part of the day, and I believe was a kind of crisis to the distemper, carrying it clear off; for ever since I feel quite lightsome, and am every day gathering strength; so I hope my seasoning is over, and that I shall enjoy better health during the rest of my stay in England.

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[1] Mrs. Margaret Stevenson, mistress of a boarding-house, No. 7, Craven Street, where Franklin lived during the fifteen years of his residence in London. — Ed.

I thank you for writing to me so frequently and fully; I believe I have missed none of your letters yet, but those by Lyon, who was taken. You mention Mr. Scott's being robbed, but do not say to what value; was it considerable? I have seen Mr. Ralph, and delivered him Mrs. Garrigues's letter. He is removed from Turnham Green, when I return, I will tell you every thing relating to him, in the mean time I must advise Mrs. Garrigues not to write to him again, till I send her word how to direct her letters, he being unwilling, for some good reasons, that his present wife should know any thing of his having any connections in America. He expresses great affection for his daughter and grandchildren. He has but one child here.

I have found David Edwards, and send you some of his letters, with one for his father. I am glad to hear that our friends at Newark got well through the smallpox.

The above particulars are in answer to things mentioned in your letters, and so are what follow.

Governor Shirley's affairs are still in an uncertain state; he is endeavouring to obtain an enquiry into his conduct, but the confusion of public affairs occasions it to be postponed. He and I visit frequently. I make no doubt but reports will be spread by my enemies to my disadvantage, but let none of them trouble you. If I find I can do my country no good, I will take care at least not to do it any harm; I will neither seek nor expect any thing for myself;

and, though I may perhaps not be able to obtain for the people what they wish and expect, no interest shall induce me to betray the trust they have reposed in me; so make yourself quite easy with regard to such reports.

Mr. Hunter is better than he has been for a long time, he and his sister desire to be remembered to you. I believe I left the seal with Mr. Parker. I am glad to hear that Mr. Boudinot has so seasonable a supply; and hope he will not go to mining again. I am obliged to all my friends that visit you in my absence. My love to them.

Mr. Ralph delivered me your letters very obligingly; he is well respected by people of value here. I thank you for sending me brother Johnny's journal; I hope he is well, and sister Read and the children. I am sorry to hear of Mr. Burt's death. He came to me at New York, with a proposal that I did not approve of, but it showed his good will and respect for me; when I return, I will tell you what it was. I shall entertain Mr. Collinson and Dr. Fothergill with your account of Teedyuskung's visit.

I should have read Sally's French letter with more pleasure, but that I thought the French rather too good to be all her own composing. I suppose her master must have corrected it. But I am glad she is improving in that and her music; I send her a French Pamela.

You were very lucky in not insuring the rum. We are obliged to Mr. Booth for his care in that remittance. I suppose you have wrote to acknowledge the receipt of it. I have not yet seen Mr. Burkett. I am not much surprised at Green's behaviour; he has not an honest principle, I fear. I have not yet seen Mr. Walsteinholme, but he is arrived. I am glad you went to Elizabethtown, and that

Ben has got that good girl. I hope they will do well, when you write, remember my love to her.

December 3.—I write by little and little as I can find time; I have now gone through all your agreeable letters, which give me fresh pleasure every time I read them. Last night I received another, dated October 16, which brings me the good news that you and Sally were got safe home; your last of the 9th, being from Elizabethtown. Budden's ship is not yet come up to London, but is daily expected, having been some time at Cowes. Mr. Hall has sent me a bill, as you mention. Mr. Walsteinholme is come to town, and I expect to see him to-day. When I have enquired how things are with Green, I shall write some directions to you what to do in the affair.

I am glad to hear that Miss Ray is well, and that you correspond. It is not convenient to be forward in giving advice in such cases. She has prudence enough to judge for herself, and I hope she will judge and act for the best.

I hear there has a miniature painter gone over to Philadelphia, a relation to John Reynolds. If Sally's picture is not done to your mind by the young man, and the other gentleman is a good hand and follows the business, suppose you get Sally's done by him, and send it to me with your small picture, that I may here get all our little family drawn in one conversation piece. I am sorry to hear of the general sickness; I hope it is over before this time; and that little Franky is recovered.

I was as much disappointed in my intention of writing by that packet, as you were in not receiving letters by her, and it has since given me a great deal of vexation. I wrote to you by way of New York, the day after my arrival in London, which I do not find you have received.

I do not use to be a backward correspondent, though my sickness has brought me behindhand with my friends in that respect. Had I been well, I intended to have gone round among the shops and bought some pretty things for you and my dear good Sally (whose little hands you say eased your headache) to send by this ship, but I must now defer it to the next, having only got a crimson satin cloak for you, the newest fashion, and the black silk for Sally; but Billy sends her a scarlet feather, muff, and tippet, and a box of fashionable linen for her dress; in the box is a thermometer for Mr. Taylor, and one for Mr. Schlatter, which you will carefully deliver; as also, a watch for Mr. Schlatter. I shall write to them. The black silk was sent to Mr. Neates, who undertook to forward it in some package of his.

It is now twelve days since I began to write this letter, and I still continue well, but have not yet quite recovered my strength, flesh, or spirits. I every day drink a glass of infusion of bark in wine, by way of prevention, and hope my fever will no more return; on fair days, which are but few, I venture out about noon. The agreeable conversation I meet with among men of learning, and the notice taken of me by persons of distinction, are the principal things that soothe me for the present, under this painful absence from my family and friends. Yet those would not keep me here another week, if I had not other inducements; duty to my country, and hopes of being able to do it service.

Pray remember me kindly to all that love us, and to all that we love. 'Tis endless to name names. I am, my dear child, your loving husband,

B. Franklin.

259. TO JOHN PRINGLE[1]

Craven-Street, Dec. 21, 1757.

Sir,

In compliance with your request, I send you the following account of what I can at present recollect relating to the effects of electricity in paralytic cases, which have fallen under my observation.

Some years since, when the news-papers made mention of great cures performed in *Italy* and *Germany*, by means of electricity, a number of paralytics were brought to me from different parts of *Pensylvania*, and the neighbouring provinces, to be electrised, which I did for them at their request. My method was, to place the patient first in a chair, on an electric stool, and draw a number of large strong sparks from all parts of the affected limb or side. Then I fully charged two six gallon glass jars, each of which had about three square feet of surface coated; and I sent the united shock of these through the affected limb or limbs, repeating the stroke commonly three times each day. The first thing observed, was an immediate greater sensible warmth in the lame limbs that had received the stroke, than in the others; and the next morning the patients usually related, that they had in the night felt a pricking sensation in the flesh of the paralytic limbs; and would sometimes shew a number of small red spots, which they supposed were occasioned by those prickings. The limbs, too, were found more capable of voluntary motion, and seemed to receive strength. A man, for instance, who could not the first day lift the lame hand from off his knee, would the next day raise it four or five inches, the third day higher; and on the fifth day was able, but with a feeble languid motion, to take off his hat. These appearances gave great spirits to the patients, and made them hope a perfect cure; but I do not remember that I ever saw any amendment after the fifth day; which the patients perceiving, and finding the shocks pretty severe, they became discouraged, went home, and in a short time relapsed; so that I never knew any advantage from electricity in palsies that was permanent. And how far the apparent temporary advantage might arise from the exercise in the patients' journey, and coming daily to my house, or from the spirits given by the hope of success, enabling them to exert more strength in moving their limbs, I will not pretend to say.

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[1] Afterwards Sir John Pringle, and President of the Royal Society, 1772–1778. From "Experiments and Observations on Electricity," London, 1769, p. 359. — Ed.

Perhaps some permanent advantage might have been obtained, if the electric shocks had been accompanied with proper medicine and regimen, under the direction of a skilful physician. It may be, too, that a few great strokes, as given in my method, may not be so proper as many small ones; since, by the account from *Scotland* of a case, in which two hundred shocks from a phial were given daily, it seems, that a perfect cure has been made. As to any uncommon strength supposed to be in the machine used in that case, I imagine it could have no share in the effect produced; since the strength of the shock from charged glass is in proportion to the quantity of surface of the glass coated; so that my shocks from those large jars must have been much greater than any that could be received from a phial held in the hand. I am, with great respect, Sir,

Your most obedient servant,

B. Franklin.

260. TO JOHN PRINGLE[1]

Craven-Street, Jan. 6, 1758.

Sir,

I return Mr. *Mitchell's* paper on the strata of the earth with thanks. The reading of it, and perusal of the draft that accompanies it, have reconciled me to those convulsions which all naturalists agree this globe has suffered. Had the different strata of clay, gravel, marble, coals, limestone, sand, minerals, &c., continued to lie level, one under the other, as they may be supposed to have done before those convulsions, we should have had the use only of a few of the uppermost of the strata, the others lying too deep and too difficult to be come at; but the shell of the earth being broke, and the fragments thrown into this oblique position, the disjointed ends of a great number of strata of different kinds are brought up to day, and a great variety of useful materials put into our power, which would otherwise have remained eternally concealed from us. So that what has been usually looked upon as a *ruin* suffered by this part of the universe, was, in reality, only a preparation, or means of rendering the earth more fit for use, more capable of being to mankind a convenient and comfortable habitation.

I am, Sir, with great esteem, yours, &c.

B. F[ranklin.]

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[1] From "Experiments and Observations on Electricity," London, 1769, p. 362. — Ed.

261. TO MRS. DEBORAH FRANKLIN[1]

London, January 14, 1758.

DEAR DEBBY,

I wrote a very long letter to you lately, two whole sheets full, containing answers to all yours received during my sickness. I have since received your kind favours of November 13 and 16th. It has given me great concern that you should be so disappointed in having no letters by Captain Luthwycke: you know by this time how it happened; but I wonder you should expect letters from me, by the way of Ireland, it being quite out of my knowledge when vessels are to sail from thence.

I am thankful to God for sparing my little family in that time of general sickness, and hope to find them all well at my return. The New York paper you sent me was the latest that came, and of use to our friend Strahan. He has offered to lay me a considerable wager, that a letter he has wrote to you will bring you immediately over hither; but I tell him I will not pick his pocket; for I am sure there is no inducement strong enough to prevail with you to cross the seas. I should be glad if I could tell you when I expected to be at home, but that is still in the dark; it is possible I may not be able to get away this summer; but I hope, if I stay another winter, it will be more agreeable than the greatest part of the time I have hitherto spent in England. But however I must bring my business to some conclusion.

I received Sally's letter of November 12th, but cannot now write to her. I wrote to my friends generally by the last packet, and shall write to them again by a ship of Mr. Ralph's, to sail from here in about a fortnight. I am not yet quite so hearty as before my illness; but I think I am daily stronger and better, so I hope I have had my seasoning; but much writing still disorders me.

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[1] From "The Works of Dr. Benjamin Franklin," Philadelphia (Duane), 1817, Vol. VI, p. 28. — ED.

My duty to mother, and love to Sally, Debby, Mr. Dunlap, and all friends that inquire after me. I am, my dear child, your ever loving husband, B. FRANKLIN.

P. S. Billy presents his duty to you and mother, and love to his sister.

262. TO MRS. DEBORAH FRANKLIN[1]

London, January 21, 1758.

MY DEAR CHILD,

Mr. Lorimer, a friend who is going over to General Abercromby, to assist him as a secretary, called on me just now, to acquaint me that he is on the point of setting out. I seize a minute or two just to let you know we are well, that is, I am well, compared to what I have been during a great part of the time since my arrival, and I hope with the spring to recover my full strength. Billy is quite hearty, and presents his duty, love, &c.

I have wrote to you by several opportunities lately, and particularly one long letter of two sheets, which I hope will come to hand, as it contained a full answer to a number of yours, received during my illness, and I have no copy of it.

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[1] From "The Works of Dr. Benjamin Franklin," Philadelphia (Duane), 1817, Vol. VI, p. 29. — ED.

I begin to think I shall hardly be able to return before this time twelve months. I am for doing effectually what I came about; and I find it requires both time and patience. You may think, perhaps, that I can find many amusements here to pass the time agreeable. 'Tis true, the regard and friendship I meet with from persons of worth, and the conversation of ingenious men, give me no small pleasure; but at this time of life, domestic comforts afford the most solid satisfaction, and my uneasiness at being absent from my family, and longing desire to be with them, make me often sigh in the midst of cheerful company.

My love to my dear Sally. I confide in you the care of her and her education. I promise myself the pleasure of finding her much improved at my return. While I am writing, three letters came in, one from Mr. Hall, one from Rhoads, another from Dr. Bond, but none from you: they are by way of Bristol. I must send this away immediately, lest Mr. Lorimer should be gone. My respects to those gentlemen, to whom I shall write, and to my other friends, by Mr. Ralph's vessel, which sails next week. I am, your ever loving husband, B. FRANKLIN.

P. S. When you write to Boston, give my love to sister Jenny, as I have not often time to write to her. If you please, you may send her the inclosed little picture.

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263. TO MRS. DEBORAH FRANKLIN (A. P. S.)

MY DEAR CHILD, London, Feb. 19. 1758.

I have wrote you several long Letters lately; the last was by Mr. Ralphe, and at the same time I wrote to my dear

Sally. Last Night I receiv'd yours of the 1st and 6th of January, which gave me the great Pleasure of hearing that you and my little Family were well. I hope you continue so, and that I shall have the Happiness to find you so. The Letter you mention to have sent me by Capt. Robinson is not come to hand; but that by Mr. Hunt I received and answered.

I regret the Loss of my Friend Parsons. Death begins to make Breaches in the little Junto of old Friends, that he had long forborne, and it must be expected he will now soon pick us all off one after another.

Your kind Advice about getting a Chariot, I had taken some time before; for I found that every time I walk'd out, I got fresh Cold; and the Hackney Coaches at this End of the Town, where most People keep their own, are the worst in the whole City, miserable, dirty, broken, shabby Things, unfit to go into when dress'd clean, and such as one would be asham'd to get out of at any Gentleman's Door. As to burning Wood, it would answer no End, unless one would furnish all one's Neighbours and the whole City with the same. The whole Town is one great smoaky House, and every Street a Chimney, the Air full of floating Sea Coal Soot, and you never get a sweet Breath of what is pure, without riding some Miles for it into the Country.

I am sorry to hear, that a storm has damag'd a House of my good Friend's Mr. Bartram's. Acquaint him that I have receiv'd the Seeds, and shall write to him shortly. I hope the Speaker is recovered of the Illness you mention. Peter behaves very well to me in general and begins to know the town so as to go anywhere of Errands. My Shirts are always well air'd as you directed. Mrs. Stevenson takes care of that. I am much more tender than I us'd to be, and sleep in a short Callico Bedgown with close Sleeves, and Flannel close-footed Trousers; for without them I get no Warmth all Night. So it seems I grow older apace. But otherwise at present I am pretty well.

Give my Thanks to Dr. Bond for the Care he takes of you. I have wrote to him by this Vessel. Mr. Hunter and Polly talk of returning this Spring. He is wonderfully recruited. They both desire to be remembred to you. She receiv'd your Letter and answer'd it. Her Answer I enclos'd in one of mine to you. Her Daughter Rachel, who plays on the Harpsichord and sings prettily, sends Sally one of her Songs, that I fancy'd.

I send you by Capt. Budden a large Case, mark'd D.F. No. 1. and a small box DF N° 2. In the large Case is another small Box, containing some English China; viz. Melons and Leaves for a Desert of Fruit and Cream, or the like; a Bowl remarkable for the Neatness of the Figures, made at Bow, near this City; some Coffee Cups of the same; a Worcester Bowl, ordinary. To show the Difference of Workmanship, there is something from all the China Works in England; and one old true China Bason mended, of an odd Colour. The same Box contains 4 Silver Salt Ladles, newest, but ugliest, Fashion; a little Instrument to core Apples; another to make little Turnips out of great ones; six coarse diaper Breakfast Cloths; they are to spread on the Tea Table, for nobody breakfasts here on the naked Table, but on the Cloth set a large Tea Board with the Cups. There is also a little Basket, a Present from Mrs. Stevenson to Sally, and a Pair of Garters for you, which were knit by the young Lady, her Daughter, who favour'd me with a Pair of the same kind, the only ones I have been able to wear; as they need not be bound tight, the Ridges in them preventing their Slipping. We send them therefore as a Curiosity for the Form, more than for the Value. Goody Smith may, if she pleases, make such for me hereafter, and they will suit her own fat Knees. My Love to her.

In the great Case, besides the little Box, is contain'd some Carpeting for a best Room Floor. There is enough for one large or two small ones, it is to be sow'd together, the Edges being first fell'd down, and Care taken to make the Figures meet exactly: there is Bordering for the same. This was my Fancy. Also two large fine Flanders BedTicks, and two pair large superfine Blankets, 2 fine Damask TableCloths and Napkins, and 43 Ells of Ghentish Sheeting Holland; these you ordered. There is also 56 Yards of Cotton, printed curiously from Copper Plates, a new Invention, to make Bed and Window Curtains; and 7 yards Chair Bottoms, printed in the same Way, very neat. These were my Fancy; but Mrs. Stevenson tells me I did wrong not to buy both of the same Colour. Also 7 yards of printed Cotton, blue Ground, to make you a Gown. I bought it by Candlelight, and lik'd it then, but not so well afterwards. If you do not fancy it, send it as a Present from me to sister Jenny. There is a better Gown for you, of flower'd Tissue, 16 yards, of Mrs. Stevenson's Fancy, cost 9 Guineas; and I think it a great Beauty. There was no more of the Sort, or you should have had enough for a *Negligée* or Suit.

There is also Snuffers, SnuffStand, and Extinguisher, of Steel, which I send for the Beauty of the Work. The Extinguisher is for Spermaceti Candles only, and is of a new Contrivance, to preserve the Snuff upon the Candle. There is also some Musick Billy bought for his Sister, and some Pamphlets for the Speaker and for Susy Wright. A Mahogany and a little Shagrin Box, with Microscopes and other Optical Instruments loose, are for Mr. Allison, if he likes them; if not, put them in my Room till I return. I send the Invoice of them, and I wrote to him formerly the Reason of my exceeding his Orders. There are also two Sets of Books, a Present from me to Sally, *The World* and *The Connoisseur*. My love to her.

I forgot to mention another of my Fancyings, viz. a Pair of Silk Blankets, very fine. They are of a new kind, were just taken in a French Prize, and such were never seen in England before: they are called Blankets, but I think will be very neat to cover a Summer Bed, instead of a Quilt or Counterpain. I had no Choice, so you will excuse the Soil on some of the Folds; your Neighbour Forster can get it off. I also forgot, among the China, to mention a large fine Jugg for Beer, to stand in the Cooler. I fell in Love with it at first Sight; for I thought it look'd like a fat jolly Dame, clean and tidy, with a neat blue and white Calico Gown on, good natur'd and lovely, and put me in mind of — Somebody. It has the Coffee Cups in its Belly, pack'd in best Chrystal Salt, of a peculiar nice Flavour, for the Table, not to be powder'd. N° 2. contains cut Table Glass of several Sorts. I am about buying a compleat Set of Table China, 2 Cases of silver handled Knives and Forks, and 2 pair Silver Candlesticks; but these shall keep to use here till my Return, as I am obliged sometimes to entertain polite Company.

I wrote you by former Letters everything relating to Mr. Ralph and other Friends and Affairs which I hope you have received.

I hope Sally applys herself closely to her French and Musick, and that I shall find she has made great Proficiency. The Harpsichord I was about, and which was to have cost me 40 Guineas, Mr. Stanley advises me not to buy, and we are looking out for another, one that has been some time in use, and is a try'd good one, there being not so much Dependance on a new One, tho' made by the best Hands. Sally's last Letter to her Brother is the best wrote that of late I have seen of hers. I only wish she was a little more careful of her Spelling. I hope she continues to love going to Church, and would have her read over and over again the *Whole Duty of Man*, and the *Lady's Library*.

Look at the Figures on the China Bowl and Coffee Cups, with your Spectacles on; they will bear Examining.

I have made your Compliments to Mrs. Stevenson. She is indeed very obliging, takes great Care of my Health, and is very diligent when I am any way indispos'd; but yet I have a thousand times wish'd you with me, and my little Sally with her ready Hands and Feet to do, and go, and come, and get what I wanted. There is a great Difference in Sickness between being nurs'd with that tender Attention, which proceeds from sincere Love; and ——[1]

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264. TO THOMAS HUBBARD, AT BOSTON[2]

SIR, London, April 28, 1758.

In pursuance of Mr. Winthrop's memorandum, which I lately received from you, through the hands of Mr. Mico,

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[1] The remainder of this letter is lost. — ED.

[2] From "A Collection of the Familiar Letters and Miscellaneous Papers of Benjamin Franklin" (Sparks), Boston, 1833, p. 57. — ED.

I have procured and delivered to him the following things, viz.

A mahogany case lined with lead, containing thirty-five square glass bottles, in five rows, seven in a row.

A glass globe of the same size and kind with that I used at Philadelphia, and mounted in the same manner.

A large glass cylinder, mounted on an iron axis with brass caps; this form being most used here, and thought better than the globe, as a long, narrow cushion will electrify a greater surface at the same time.

The bottles have necks, which I think better than to be quite open; for so they would either be exposed to the dust and damp of the air, if they had no stoppers, or the stoppers would be too near together to admit of electrifying a single bottle, or row of bottles; there is only a little more difficulty in lining the inside with tinfoil, but that is chiefly got over by cutting it into narrow strips, and guiding them in with a stick flat at one end to apply the more conveniently to the pasted side of the glass. I would have coated them myself, if the time had not been too short. I send the tinfoil, which I got made of a proper breadth for the purpose; they should be coated nine inches high, which brings the coating just even with the edge of the case. The tinfoil is ten inches broad, which allows for lapping over the bottom.

I have bored the holes in all the stoppers for the communicating wires, provided all the wires, and fixed one or two to show the manner. Each wire, to go into a bottle, is bent so that the two ends go in and spring against the inside coating or lining. The middle of the wire goes up into the stopper, with an eye, through which the long communicating wires pass, that connect all the bottles in one row.

To form occasional communications with more rows, there must be, on the long wires of the second and fourth rows, four other movable wires, which I call cross-wires, about two inches and a half long, with a small ball of any metal about the size of a pistol-bullet at each end. The ball of one end is to have a hole through the middle, so that it may be slipped on the long wire; and one of these cross-wires is to be placed between the third and fourth bottles of the row at each end; and on each of the abovementioned rows, that is, two to each row, they must be made to turn easy on the wires, so that when you would charge only the middle row, you turn two of them back on the first, and two on the fifth row, then the middle row will be unconnected with the others. When you would charge more rows, you turn them forwards or backwards, so as to have the communication completed with just the number of rows you want.

The brass handles of the case communicate with the outside of the bottles, when you wish to make the electrical circuit.

I see, now I have wrote it, that the greatest part of this letter would have been more properly addressed to Mr. Winthrop himself; but probably you will send it to him with the things, and that will answer the end. Be pleased to tender my best respects to him and the rest of the gentlemen of the College.

I am, with great esteem and regard, Sir,
Your most obliged humble servant,
B. Franklin.

P. S. I beg the College will do me the favour to accept a Virgil, which I send in the case, thought to be the most curiously printed of any book hitherto done in the world.[1]

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[1] Baskerville's quarto edition of Virgil. — Ed.

265. TO MRS. DEBORAH FRANKLIN (A. P. S.)

London, June 10, 1758.

MY DEAR CHILD,

I was down at Cambridge with Billy when Snead sailed, so did not write again by him as I intended. His sailing so soon was unexpected to me. I am somewhat out of the Way of Vessels, and Mr. Partridge by Mistake wrote me Snead was not to sail that Week; so being very kindly entertain'd there in the Colleges, we did not hurry so soon home as we might have done. However, this Vessel perhaps may be there about the same time.

I think nobody ever had more faithful Correspondents than I have in Mr. Hughes and you. I have now before me your Letters of Jan^{y} 15, 22, 29, & 31. Feb. 3, 4, & 6. March 12. April 3, 9, 17, & 23, which is the last. I suppose I have near as many from Mr. Hughes. It is impossible for me to get or keep out of your Debts. I receiv'd the Bill of Exchange you got of Mr. Nelson, and it is paid. I received also the Proprietaries Acc^{t}. It gives me Concern to receive such frequent Acc^{t}s of your being indisposed; but we both of us grow in Years, and must expect our Constitutions, though tolerably good in themselves, will by degrees give way to the Infirmities of Age.

I have sent in a Trunk of the Library Company's, some of the best Writing Paper for Letters, and best Quills and Wax, all for Mrs. Moore, which I beg she would accept; having receiv'd such Civilities here from her Sister and Brother Scot, as are not in my Power to return. I shall send some to Sally by next Opportunity. By Capt. Lutwidge I sent my dear Girl a newest fashion'd white Hat and Cloak, and sundry little things, which I hope will get safe to hand. I now send her a pair of Buckles, made of French Paste Stones, which are next in Lustre to Diamonds. They cost three Guineas, and are said to be cheap at that Price. I fancy I see more Likeness in her Picture than I did at first, and I look at it often with Pleasure, as at least it reminds me of her. Yours is at the Painter's, who is to copy it, and do me of the same Size; but as to Family Pieces, it is said they never look well, and are quite out of Fashion; and I find the Limner very unwilling to undertake any thing of the kind. However, when Franky's comes, and that of Sally by young Hesselius, I shall see what can be done. I wonder how you came by Ben Lay's Picture.

You are very prudent not to engage in Party Disputes. Women never should meddle with them except in Endeavours to reconcile their Husbands, Brothers, and Friends, who happen to be of contrary Sides. If your Sex can keep cool, you may be a means of cooling ours the sooner, and restoring more speedily that social Harmony among Fellow-Citizens, that is so desirable after long and bitter Dissensions.

Cousin Dunlap[1] has wrote me an Account of his purchasing Chattin's Printing-House. I wish it may be advantageous to him without injuring Mr. Hall. I can however do nothing to encourage him, as a Printer in Philadelphia, inconsistent with my PreËngagement to so faithful a Partner. And I trust you will take care not to do any thing in that way, that may draw Reflections on me; as if I did, underhand, thro' your means, what I would not care to appear in openly.

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[1] William Dunlap was a native of Ireland, became a printer in Philadelphia, and had recently married a relation of Mrs. Franklin. — S.

I hope he will keep a good Understanding with Mr. Hall, and am pleas'd to hear he asked his Advice and Friendship. But I have thought it right and necessary to forbid the Use of my Letters by Mr. Dunlap without Mr. Hall's Consent. The Post-Office, if 'tis agreable to you, may be removed to Mr. Dunlap's House, it being propos'd by our good Friend Mr. Hughes.

I wrote to you lately to speak to Ambruster [1] not to make Use of my Name any more in his NewsPaper, as I have no particular Concern in it, but as one of the Trustees only. I have no Prospect of Returning till next Spring, so you will not expect me. But pray remember to make me as happy as you can, by sending some Pippins for myself and Friends, some of your small Hams, and some Cranberries.

Billy is of the Middle Temple, and will be call'd to the Bar either this Term or the next. I write this in answer to your particular Enquiry. I am glad you like the Cloak I sent you. The black Silk was sent by our Friend Mr. Collinson. I never saw it. Your Answer to Mr. Strahan was just what it should be. I was much pleas'd with it. He fancy'd his Rhetoric and Art would certainly bring you over. Cousin Burkmaster has suffered much, and had a narrow Escape; I am concern'd for his double Misfortune. A Ship and a Mistress are too much to lose at once; but let him think, if he can, that whatever is, is best. You mention sending a letter of Caty's, but it did not come.

I have order'd two large print Common Prayer Books to be bound on purpose for you and Goodey Smith; and that the largeness of the Print may not make them too bulkey, the Christnings, Matrimonies, and every thing else that you and she have not immediate and constant Occasion for, are to be omitted. So you will both of you be repriev'd from the Use of Spectacles in Church a little longer.

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[1] Anthony Ambruster, a German by birth, who printed German books in Philadelphia, and for some time published a newspaper there in the German language. — S.

If the ringing of the Bells frightens you, tie a Piece of Wire from one Bell to the other, and that will conduct the lightning without ringing or snapping, but silently. Tho' I think it best the Bells should be at Liberty to ring, that you may know when the wire is electrify'd; and, if you are afraid may keep at a Distance.[1] I wrote last Winter to Josey Crocker to come over hither, and stay a year, and work in some of the best Shops for Improvement in his Business, and therefore did not send the Tools; but if he is about to be married, I would not advise him to come. I shall send the Tools immediately. You have dispos'd of the Apple-Trees very properly. I condole with you on the Loss of your Walnuts.

I see the Governor's Treatment of his Wife makes all the Ladies angry. If 'tis on account of the bad Example, that will soon be remov'd; for the Proprietors are privately looking out for another; being determined to discard him, and the Place goes a begging. One to whom it was offer'd, sent a Friend to make some Enquiries of me. The Proprietor told him he had there a City-House and a Country-House, which he might use Rent free; that every thing was so cheap he might live on £500 Sterling a Year, keep a genteel Table, a Coach, &c., and his Income would be at least £900. If it fell short of that, the Proprietor would engage to make it up. For the Truth of his being able to live genteely, and keep a Coach for £500 a year, the Proprietor refer'd him to Mr. Hamilton, who it seems told him the same story; but on Enquiring of Mr. Morris, he had quite a different Account, and knew not which to believe. The Gentleman is one Mr. Graves, a Lawyer of the Temple. He hesitated a good while, and I am now told he declines accepting it. I wish that may not be true; for he has the Character of being a very good sort of Man; tho' while the Instructions continue, it matters little who is our Governor. It was to have been kept a Secret from me, that the Proprietors were looking out for a new one, because they would not have Mr. Denny know anything of it, till the Appointment should be actually made, and the Gentleman ready to embark. So you may make a Secret of it too, if you please, and oblige all your Friends with it.

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[1] In the year 1753 he had erected an iron rod for the purpose of drawing lightning from the clouds into his house. He also placed two bells in such a position, that they would ring when the rod was electrified. — ED.

I need not tell you to assist Godmother in her Difficulties; for I know you will think it as agreable to me, as it is to your own good Disposition. I could not find the Bit of Thread you mention to have sent me, of your own Spinning: perhaps it was too fine to be seen. I am glad little Frankey begins to talk. It will divert you to have him often with you.

I think I have now gone thro' your Letters, which always give me great Pleasure to receive and read, since I cannot be with you in Person. Distribute my Compliments, Respects, and Love among my Friends, and believe me ever, my dear Debby, your affectionate Husband,

B. FRANKLIN.

P.S. Mrs. Stevenson and her Daughter desire me to present their Respects and offer their Service to you and Sally. I think of going into the Country soon, and shall be pretty much out this Summer, in different Parts of England. I depend chiefly on these intended Journeys for the Establishment of my Health.

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266. TO THE SPEAKER AND COMMITTEE OF THE PENNSYLVANIA ASSEMBLY (A. P. S.)

London, June 10, 1758.

Gentlemen,

In mine of May 13 I gave you a particular Acc^{t} of the Hearing before the Att^{y} and Sollicitor General, on a Reference of Smith's Petition; they have not yet made their Report, and would now, I hear, excuse themselves from doing it as unnecessary, since they have heard that the Prisoners are discharged. But they are still solicited by Mr. Penn and Mr. Moore to report, on an Allegation that they have Letters advising that Warrants are issued for taking them up again. None of my Letters from Pensilvania mentioning any thing of this, I have ventured to say I doubt the Truth of it. Whether they will report or not is uncertain; But if they should report against us, I am determin'd to dispute the Matter again before the Council.

I send you herewith a Copy of the Note I furnish'd our Sollicitor with, when drawing his Brief; a Copy of the Brief itself; a Copy of some Remarks on the Reflection thrown upon the Assembly by the Council at the first Hearing, as being Quakers and therefore against Defence, and as bearing Malice against Smith because a Clergyman of the Church of England, and against Moore because he petition'd for Defence, etc. These I gave to our Council before the 2d Hearing, when they were to speak, and they made good Use of them. I furnish'd also a Number of Cases from the Votes of Assemblies in the other Colonies, showing that they all claim'd and exercis'd a Power of committing for Breach of Privilege etc; but of this Paper of Cases I have no Copy by me.[1]

Mr. Charles at my Request has drawn the State of a Case, in order to obtain Opinions of eminent Lawyers how far our present Privileges would be affected in case of a Change of Government, by our coming immediately under the Crown. I send you a Copy of this Case, with the Opinion of one Council upon it, who is esteem'd the best acquainted with our American Affairs, and Constitutions, as well as with Government Law in general. He being also thoroughly knowing in the present Views of the leading Members of the Council and Board of Trade, and in their Connections and Characters, has given me withal, as a Friend, some prudential Advice in a separate Sheet distinct from his Law Opinion, because

[1] Petitions had been sent to the Assembly, charging William Moore, president of the court of common pleas in Chester county, with misconduct in his office. Moore was summoned to appear before the House, which he refused to do. The House found him guilty, however, and requested the governor to remove him from office. This was declined by the governor, till he should investigate the case; and in the mean time Moore published a defence containing language, which the Assembly voted to be slanderous and insulting. It appeared in evidence, also, that William Smith, provost of the College, had been concerned in revising and correcting this piece before it was published. Smith was then arrested, and both he and Moore were imprisoned. The public was much agitated by the controversy. The governor took the part of the accused. Smith and Moore ultimately appealed to the King in Council, where it was decided that the Assembly had transcended their powers, and that their conduct was reprehensible. A summary of the case is contained in GORDON'S *History of Pennsylvania*, p. 352. — S.

the Law Opinion might necessarily appear where he would not care the Advice should be seen. I send you, also, a Copy of this, and should be glad of your Sentiments upon it. One thing, that he recommends to be done before we push our Points in Parliament, viz., *removing the Prejudices, that Art and Accident have spread among the People of this Country against us, and obtaining for us the good Opinion of the Bulk of Mankind without Doors.* I hope we have in our power to do, by means of a Work now near ready for the Press, calculated to engage the Attention of many Readers, and at the same time efface the bad Impressions receiv'd of us:—But it is thought best not to publish it, till a little before the next Session of Parliament.[1]

The Proprietors are determin'd to discard their present Governor, as soon as they can find a Successor to their Mind. They have lately offer'd the Governm^t to one Mr. Graves, a Gentleman of the Temple, who has for some time had it under Consideration, and makes a Difficulty of accepting it: The Beginning of the Week it was thought he would accept; but on Thursday Night I was told he had resolved to refuse it. I know not, however, whether he may not yet be prevail'd on. He has the character of a man of good Understanding, and good Dispositions. ——[2]

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[1] The work here alluded to is undoubtedly the "Historical Review of the Constitution and Government of Pennsylvania."—ED.

[2] The remainder of the letter is lost.

267. TO JOHN LINING, AT CHARLESTON[1]

London, June 17, 1758.

DEAR SIR,

In a former letter I mentioned the experiment for cooling bodies by evaporation, and that I had, by repeatedly wetting the thermometer with common spirits, brought the mercury down five or six degrees. Being lately at *Cambridge*, and mentioning this in conversation with Dr. *Hadley*, professor of chemistry there, he proposed repeating the experiments with ether, instead of common spirits, as the ether is much quicker in evaporation. We accordingly went to his chamber, where he had both ether and a thermometer. By dipping first the ball of the thermometer into the ether, it appeared that the ether was precisely of the same temperament with the thermometer, which stood then at 65; for it made no alteration in the height of the little column of mercury. But when the thermometer was taken out of the ether, and the ether, with which the ball was wet, began to evaporate, the mercury sunk several degrees. The wetting was then repeated by a feather that had been dipped into the ether, when the mercury sunk still lower.

We continued this operation, one of us wetting the ball, and another of the company blowing on it with the bellows, to quicken the evaporation, the mercury sinking all the time, till it came down to 7, which is 25 degrees below the freezing point, when we left off. Soon after it passed the freezing point, a thin coat of ice began to cover the ball.

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[1] From "Experiments and Observations on Electricity," London, 1769, p. 363.

Whether this was water collected and condensed by the coldness of the ball, from the moisture in the air, or from our breath; or whether the feather, when dipped into the ether, might not sometimes go through it, and bring up some of the water that was under it, I am not certain; perhaps all might contribute. The ice continued increasing till we ended the experiment, when it appeared near a quarter of an inch thick all over the ball, with a number of small *spicula*, pointing outwards. From this experiment one may see the possibility of freezing a man to death on a warm summer's day, if he were to stand in a passage through which the wind blew briskly, and to be wet frequently with ether, a spirit that is more inflammable than brandy, or common spirits of wine.

It is but within these few years, that the *European* philosophers seem to have known this power in nature, of cooling bodies by evaporation. But in the east they have long been acquainted with it. A friend tells me, there is a passage in *Bernier's* Travels through *Indostan*, written near one hundred years ago, that mentions it as a practice (in traveling over dry desarts in that hot climate) to carry water in flasks wrapt in wet woollen cloths, and hung on the shady side of the camel, or carriage, but in the free air; whereby, as the cloths gradually grow drier, the water contained in the flasks is made cool. They have likewise a kind of earthen pots, unglaz'd, which let the water gradually and slowly ooze through their pores, so as to keep the outside a little wet, notwithstanding the continual evaporation, which gives great coldness to the vessel, and the water contained in it. Even our common sailors seem to have had some notion of this property; for I remember, that being at sea, when I was a youth, I observed one of the sailors, during a calm in the night, often wetting his finger in his mouth, and then holding it up in the air, to discover, as he said, if the air had any motion, and from which side it came; and this he expected to do, by finding one side of his finger grow suddenly cold, and from that side he should look for the next wind; which I then laughed at as a fancy.

May not several phænomena, hitherto unconsidered, or unaccounted for, be explained by this property? During the hot *Sunday* at *Philadelphia*, in *June* 1750, when the thermometer was up at 100 in the shade, I sat in my chamber without exercise, only reading or writing, with no other cloaths on than a shirt, and a pair of long linen drawers, the windows all open, and a brisk wind blowing through the house; the sweat ran off the backs of my hands, and my shirt was often so wet, as to induce me to call for dry ones to put on. In this situation, one might have expected, that the natural heat of the body 96, added to the heat of the air 100, should jointly have created or produced a much greater degree of heat in the body; but the fact was, that my body never grew so hot as the air that surrounded it, or the inanimate bodies immersed in the same air. For I remember well, that the desk, when I laid my arm upon it; a chair, when I sat down in it; and a dry shirt out of the drawer, when I put it on, all felt exceeding warm to me, as if they had been warmed before a fire. And I suppose a dead body would have acquired the temperature of the air, though a living one, by continual sweating, and by the evaporation of that sweat, was kept cold.

May not this be a reason why our reapers in *Pensylvania*, working in the open field in the clear hot sunshine common in our harvest-time,[1] find themselves well able to go through that labour, without being much incommoded by the heat, while they continue to sweat, and while they supply matter for keeping up that sweat, by drinking frequently of a thin evaporable liquor, water mixed with rum; but, if the sweat stops, they drop, and sometimes die suddenly, if a sweating is not again brought on by drinking that liquor, or, as some rather chuse in that case, a kind of hot punch, made with water, mixed with honey, and a considerable proportion of vinegar? May there not be in negroes a quicker evaporation of the perspirable matter from their skins and lungs, which, by cooling them more, enables them to bear the sun's heat better than whites do? (if that is a fact, as it is said to be; for the alledg'd necessity of having negroes rather than whites, to work in the *West India* fields, is founded upon it) though the colour of their skins would otherwise make them more sensible of the sun's heat, since black cloth heats much sooner, and more, in the sun, than white cloth. I am persuaded, from several instances happening within my knowledge, that they do not bear cold weather so well as the whites; they will perish when exposed to a less degree of it, and are more apt to have their limbs frost-bitten; and may not this be from the same cause?

Would not the earth grow much hotter under the summer sun, if a constant evaporation from its surface, greater as the sun shines stronger, did not, by tending to cool it, balance, in some degree, the warmer effects of the sun's rays? Is it not owing to the constant evaporation from the surface of every leaf, that trees, though shone on by the sun, are always, even the leaves themselves, cool to our sense? at least, much cooler than they would otherwise be? May it not be owing to this, that fanning ourselves when warm, does really cool us, though the air is itself warm that we drive with the fan upon our faces? For the atmosphere round, and next to our bodies, having imbibed as much of the perspired vapour as it can well contain, receives no more, and the evaporation is therefore check'd and retarded, till we drive away that atmosphere, and bring dryer air in its place, that will receive the vapour, and thereby facilitate and increase the evaporation? Certain it is, that mere blowing of air on a dry body does not cool it, as any one may satisfy himself, by blowing with a bellows on the dry ball of a thermometer; the mercury will not fall; if it moves at all, it rather rises, as being warmed by the friction of the air on its surface.

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[1] *Pennsylvania* is in about lat. 40, and the sun, of course, about 12 degrees higher, and therefore much hotter, than in *England*. Their harvest is about the end of *June*, or beginning of *July*, when the sun is nearly at the highest. — F.

To these queries of imagination, I will only add one practical observation; that wherever it is thought proper to give ease, in cases of painful inflammation in the flesh (as from burnings, or the like), by cooling the part; linen cloths wet with spirit, and applied to the part inflamed, will produce the coolness required, better than if wet with water, and will continue it longer. For water, though cold when first applied, will soon acquire warmth from the flesh, as it does not evaporate fast enough; but the cloths wet with spirit, will continue cold as long as any spirit is left to keep up the evaporation, the parts warmed escaping as soon as they are warmed, and carrying off the heat with them.

I am, Sir, &c.

B. F[RANKLIN.]

268. TO MRS. DEBORAH FRANKLIN[1]

London, September 6, 1758.

My dear Child,

In mine of June 10th, by the Mercury, Captain Robinson, I mentioned our having been at Cambridge. We stayed there a week, being entertained with great kindness by the principal people, and shown all the curiosities of the place; and, returning by another road to see more of the country, we came again to London. I found the journey advantageous to my health, increasing both my health and spirits, and therefore, as all the great folks were out of town, and public business at a stand, I the more easily prevailed with myself to take another journey, and accept of the invitation we had, to be again at Cambridge at the Commencement, the beginning of July. We went accordingly, were present at all the ceremonies, dined every day in their halls, and my vanity was not a little gratified by the particular regard shown me by the chancellor and vice-chancellor of the University, and the heads of colleges.

After the Commencement, we went from Cambridge through Huntingdonshire into Northumberlandshire, and at Wellingborough, on inquiry, we found still living Mary Fisher, whose maiden name was Franklin, daughter and only child of Thomas Franklin, my father's eldest brother. She is five years older than sister Dowse, and remembers her going away with my father and his then wife, and two other children to New England, about the year 1685. We have had no correspondence with her since my uncle Benjamin's death, now near thirty years. I knew she had lived at Wellingborough, and had married there to one Mr. Richard Fisher, a grazier and tanner, about fifty years ago, but did not expect to see either of them alive, so inquired for their posterity. I was directed to their house, and we found them both alive, but weak with age, very glad however to see us. She seems to have been a very smart, sensible woman. They are wealthy, have left off business, and live comfortably. They have had only one child, a daughter, who died, when about thirty years of age, unmarried. She gave me several of my uncle Benjamin's letters to her, and acquainted me where the other remains of the family lived, of which I have, since my return to London, found out a daughter of my father's only sister, very old, and never married. She is a good, clever woman, but poor, though vastly contented with her situation, and very cheerful. The others are in different parts of the country. I intend to visit them, but they were too much out of our tour in that journey.

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[1] First printed in "The Works of Dr. Benjamin Franklin" (Duane), Philadelphia, 1817, Vol. VI, p. 36. — Ed.

From Wellingborough we went to Ecton, about three or four miles, being the village where my father was born, and where his father, grandfather, and greatgrandfather had lived, and how many of the family before them we know not. We went first to see the old house and grounds; they came to Mr. Fisher with his wife, and, after letting them for some years, finding his rent something ill paid, he sold them. The land is now added to another farm, and a school kept in the house. It is a decayed old stone building, but still known by the name of Franklin House. Thence we went to visit the rector of the parish, who lives close by the church, a very ancient building. He entertained us very kindly, and showed us the old church register, in which were the births, marriages, and burials of our ancestors for two hundred years, as early as his book began. His wife, a goodnatured, chatty old lady, (granddaughter of the famous Archdeacon Palmer, who formerly had that parish, and lived there,) remembered a great deal about the family; carried us out into the churchyard, and showed us several of their gravestones, which were so covered with moss, that we could not read the letters, till she ordered a hard brush and basin of water, with which Peter scoured them clean, and then Billy copied them. She entertained and diverted us highly with stories of Thomas Franklin, Mrs. Fisher's father, who was a conveyancer, something of a lawyer, clerk of the county courts, and clerk to the Archdeacon in his visitations; a very leading man in all county affairs, and much employed in public business. He set on foot a subscription for erecting chimes in their steeple, and completed it, and we heard them play. He found out an easy method of saving their village meadows from being drowned, as they used to be sometimes by the river, which method is still in being; but, when first proposed, nobody could conceive how it could be; "but however," they said, "if Franklin says he knows how to do it, it will be done." His advice and opinion were sought for on all occasions, by all sorts of people, and he was looked upon, she said, by some, as something of a conjuror. He died just four years before I was born, on the same day of the same month.

Since our return to London, I have had a kind letter from cousin Fisher, and another from the rector, which I send you.

From Ecton we went to Northampton, where we stayed part of the day; then went to Coventry, and from thence to

Birmingham. Here, upon inquiry, we soon found out yours, and cousin Wilkinson's, and cousin Cash's relations. First, we found out one of the Cashes, and he went with us to Rebecca Flint's, where we saw her and her husband. She is a turner and he a buttonmaker; they have no children; were very glad to see any person that knew their sister Wilkinson; told us what letters they had received, and showed us some of them; and even showed us that they had, out of respect, preserved a keg, in which they had received a present of some sturgeon. They sent for their brother, Joshua North, who came with his wife immediately to see us; he is a turner also, and has six children, a lively, active man. Mrs. Flint desired me to tell her sister, that they live still in the old house she left them in, which I think she says was their father's. From thence Mr. North went with us to your cousin Benjamin's.——[1]

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269. TO ISAAC NORRIS[2] (L. C.)

London, Sept. 16. 1758

Baskerville is printing Newton's Milton in two Volumes, 8vo. I have inserted your Name in his List of Subscribers, as you mention your Inclination to encourage so deserving an Artist.

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[1] The remainder of this letter is missing. — Ed.

[2] This letter in the Stevens Collection (L. C.) does not contain the name of the person to whom it was addressed. It has sometimes been supposed that it was sent to James Logan. Isaac Norris is the only Philadelphian whose name appears in the list of subscribers to Baskerville's Milton. To Norris a telescope was sent by Franklin. All the internal evidence therefore points to Norris. — Ed.

It is certain that the Government here are inclin'd to resume all the Proprietary Powers, and I make no doubt but upon the first Handle they will do so. I only think they wish for some Advantage against the People's Privileges as well as the Proprietary Powers. I believe a Petition from either of the Assemblies, expressing their Dislike to the Proprietary Government, & praying the Crown to take the Province under its immediate Government & Protection, would be even now very favourably heard. Tumults and Insurrections, that might prove the Proprietary Government insufficient to preserve Order, or show the People to be ungovernable, would do the Business immediately; but such I hope will never happen. I know not but a Refusal of the Assembly to lay Taxes, or of the People to pay them, unless the Proprietary Estate be taxed, would be Sufficient: But this would be extreamly improper before it is known whether Redress may not be obtained on Application here. *I should be glad to know your Sentiments on the Point of getting rid of the Proprietary Government, & whether you think it would be generally agreable to the People.*

I was much concern'd to hear of your Indisposition, and for the Occasion of it. They have certainly made some Mistake about the Books, and sent you a Box or two that were not of the Parcel & not intended to be sent you. Osborne teazes one to have the Account closed, but let not that induce you to run the like Hazard, or fatigue yourself to the Prejudice of your Health, which I hope you have long before this time perfectly recovered.

Your Telescope is at length finished, and I shall have it sent in a few Days, tho' I doubt too late to be sent per this Ship. I would willingly have it examin'd too per Mr. Short, a Friend of mine, & the great Optician here, before I Ship it. I shall send it with your Brothers Books & yours, on Gardening &c. per next Ship, perhaps per Bolitho.

The Defence made by the Council of the Indian Walk Purchase seems to me a miserable one I observe the Secretary's Prevarication about his Discourse at Easton, &c. How comes the Report to be sign'd only by L. Lardner?

Endorsed:

London Sept^{r} 16th 1758. Benj^{a} franklin
Separate Notes recd Jan^{ry} 1759
The Ministry would chearfully join in Resuming the Government on an Applicat^{n} from the Assembly or &c.

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270. TO HUGH ROBERTS[1]

London, September 16, 1758.

DEAR FRIEND,

Your kind letter of June 1st gave me great pleasure. I thank you for the concern you express about my health, which at present seems tolerably confirmed by my late journey into different parts of the kingdom, that have been highly entertaining as well as useful to me. Your visits to my little family in my absence are very obliging, and I hope you will be so good as to continue them. Your remark on the thistle and the Scotch motto made us very merry, as well as your string of puns. You will allow me to claim a little merit or demerit in the last, as having had some hand in making you a punster; but the wit of the first is keen, and all your own.

Two of the former members of the Junto you tell me are departed this life, Potts and Parsons. Odd characters both of them. Parsons a wise man, that often acted foolishly; Potts a wit, that seldom acted wisely. If *enough* were the means to make a man happy, one had always the *means* of happiness, without ever enjoying the *thing;* the other had always the *thing*, without ever possessing the *means*. Parsons, even in his prosperity, always fretting; Potts, in the midst of his poverty, ever laughing. It seems, then, that happiness in this life rather depends on internals than externals; and that, besides the natural effects of wisdom and virtue, vice and folly, there is such a thing as a happy or an unhappy constitution. They were both our friends, and loved us. So, peace to their shades. They had their virtues as well as their foibles; they were both honest men, and that alone, as the world goes, is one of the greatest of characters. They were old acquaintances, in whose company I formerly enjoyed a great deal of pleasure, and I cannot think of losing them, without concern and regret.

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[1] First published by Sparks.

I shall, as you suppose, look on every opportunity you give me of doing you service, as a favour, because it will afford me pleasure. I know how to make you ample returns for such favours, by giving you the pleasure of building me a house. You may do it without losing any of your own time; it will only take some part of that you now spend in other folks' business. It is only jumping out of their waters into mine.

I am grieved for our friend Syng's loss. You and I, who esteem him, and have valuable sons ourselves, can sympathize with him sincerely. I hope yours is perfectly recovered, for your sake as well as for his own. I wish he may be, in every respect, as good and as useful as his father. I need not wish him more; and can only add, that I am, with great esteem, dear friend, yours affectionately,

B. FRANKLIN.

P. S. I rejoice to hear of the prosperity of the Hospital, and send the wafers. I do not quite like your absenting yourself from that good old club, the Junto. Your more frequent presence might be a means of keeping them from being all engaged in measures not the best for public welfare. I exhort you, therefore, to return to your duty; and, as the Indians say, to confirm my words, I send you a Birmingham tile. I thought the neatness of the figures would please you.

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271. TO MRS. JANE MECOM[1]

DEAR SISTER, London, September 16, 1758.

I received your favour of June 17. I wonder you have had no letter from me since my being in England. I have wrote you at least two, and I think a third before this, and what was next to waiting on you in person, sent you my picture. In June last I sent Benny a trunk of books, and wrote to him; I hope they are come to hand, and that he meets with encouragement in his business. I congratulate you on the conquest of Cape Breton, and hope as your people took it by praying, the first time, you will now pray that it may never be given up again, which you then forgot. Billy is well, but in the country. I left him at Tunbridge Wells, where we spent a fortnight, and he is now gone with some company to see Portsmouth. We have been together over a great part of England this summer, and among other

[1] From "The Works of Dr. Benjamin Franklin" (Duane), Philadelphia, 1817, Vol. VI, p. 39. — ED.

places, visited the town our father was born in, and found some relations in that part of the country still living.

Our cousin Jane Franklin, daughter of our uncle John, died about a year ago. We saw her husband, Robert Page, who gave us some old letters to his wife, from uncle Benjamin. In one of them, dated Boston, July 4, 1723, he writes that your uncle Josiah has a daughter Jane, about twelve years old, a good-humoured child. So keep up to your character, and don't be angry when you have no letters. In a little book he sent her, called "None but Christ," he wrote an acrostick on her name, which for namesake's sake, as well as the good advice it contains, I transcribe and send you, viz.

"Illuminated from on high,
And shining brightly in your sphere,
Ne'er faint, but keep a steady eye,
Expecting endless pleasures there.

"Flee vice as you'd a serpent flee;
Raise *faith* and *hope* three stories higher,
And let Christ's endless love to thee
Ne'er cease to make thy love aspire.
Kindness of heart by words express,
Let your obedience be sincere,
In prayer and praise your God address,
Nor cease, till he can cease to hear."

After professing truly that I had a great esteem and veneration for the pious author, permit me a little to play the commentator and critic on these lines. The meaning of *three stories higher* seems somewhat obscure. You are to understand, then, that *faith*, *hope*, and *charity* have been called the three steps of Jacob's ladder, reaching from earth to heaven; our author calls them *stories*, likening religion to a building, and these are the three stories of the Christian edifice. Thus improvement in religion is called *building up* and *edification*. *Faith* is then the ground floor, *hope* is up one pair of stairs. My dear beloved Jenny, don't delight so much to dwell in those lower rooms, but get as fast as you can into the garret, for in truth the best room in the house is *charity*. For my part, I wish the house was turned upside down; 'tis so difficult (when one is fat) to go up stairs; and not only so, but I imagine *hope* and *faith* may be more firmly built upon *charity*, than *charity* upon *faith* and *hope*. However that may be, I think it the better reading to say —

"Raise faith and hope one story higher."

Correct it boldly, and I'll support the alteration; for, when you are up two stories already, if you raise your building three stories higher you will make five in all, which is two more than there should be, you expose your upper rooms more to the winds and storms; and, besides, I am afraid the foundation will hardly bear them, unless indeed you build with such light stuff as straw and stubble, and that, you know, won't stand fire. Again, where the author says,

"Kindness of heart by words express,"

strike out *words*, and put in *deeds*. The world is too full of compliments already. They are the rank growth of every soil, and choak the good plants of benevolence, and beneficence; nor do I pretend to be the first in this comparison of words and actions to plants; you may remember an ancient poet, whose works we have all studied and copied at school long ago.

"A man of words and not of deeds
Is like a garden full of weeds."

'Tis a pity that good works, among some sorts of people, are so little valued, and good words admired in their stead:

I mean seemingly pious discourses, instead of humane benevolent actions. Those they almost put out of countenance, by calling morality *rotten morality*, righteousness *ragged righteousness*, and even filthy rags — and when you mention virtue, pucker up their noses as if they smelt a stink; at the same time that they eagerly snuff up an empty canting harangue, as if it was a posey of the choicest flowers: So they have inverted the good old verse, and say now

> "A man of deeds and not of words
> Is like a garden full of ——"

I have forgot the rhyme, but remember 'tis something the very reverse of perfume. So much by way of commentary.

My wife will let you see my letter, containing an account of our travels, which I would have you read to sister Dowse, and give my love to her. I have no thoughts of returning till next year, and then may possibly have the pleasure of seeing you and yours; taking Boston in my way home. My love to brother and all your children, concludes at this time from, dear Jenny, your affectionate brother,

B. FRANKLIN.

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272. TO JAMES BOWDOIN[1]

London, Dec. 2, 1758.

DEAR SIR,

I have executed here an easy, simple contrivance, that I have long since had in speculation, for keeping rooms warmer in cold weather than they generally are, and with less fire. It is this: The opening of the chimney is contracted by brick work faced with marble slabs, to about two feet between the jams, and the breast brought down to within about three feet of the hearth. An iron frame is placed just under the breast, and extending quite to the back of the chimney, so that a plate of the same metal may slide horizontally backwards and forwards in the grooves on each side of the frame. This plate is just so large as to fill the whole space, and shut the chimney entirely when thrust quite in, which is convenient when there is no fire. Drawing it out, so as to leave a space between its further edge and the back, of about two inches; this space is sufficient for the smoke to pass; and so large a part of the funnel being stopped by the rest of the plate, the passage of warm air out of the room, up the chimney, is obstructed and retarded, and by that means much cold air is prevented from coming in through crevices, to supply its place.

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[1] Published in 1786 in connection with a letter to Dr. Ingenhousz in reference to smoky chimneys, in "Transactions of The American Philosophical Society" (1786). Published as a separate work: "Observations on the Causes and Cure of Smoky Chimneys," Philadelphia, 1787. — ED.

This effect is made manifest three ways. First, when the fire burns briskly in cold weather, the howling or whistling noise made by the wind, as it enters the room through the crevices, when the chimney is open as usual, ceases as soon as the plate is slid in to its proper distance. Secondly, opening the door of the room about half an inch, and holding your hand against the opening near the top of the door, you feel the cold air coming in against your hand, but weakly, if the plate be in. Let another person suddenly draw it out, so as to let the air of the room go up the chimney, with its usual freedom where chimneys are open, and you immediately feel the cold air rushing in strongly. Thirdly, if something be set against the door, just sufficient, when the plate is in, to keep the door nearly shut, by resisting the pressure of the air that would force it open; then, when the plate is drawn out, the door will be forced open by the increased pressure of the outward cold air endeavouring to get in to supply the place of the warm air that now passes out of the room to go up the chimney. In our common open chimneys, half the fuel is wasted, and its effect lost, the air it has warmed being immediately drawn off. Several of my acquaintance, having seen this simple machine in my room, have imitated it in their own houses, and it seems likely to become pretty common. I describe it thus particularly to you, because I think it would be useful in Boston, where firing is often dear.

Mentioning chimneys puts me in mind of a property I formerly had occasion to observe in them, which I have not found taken notice of by others: it is, that in the summer time, when no fire is made in the chimneys, there is nevertheless, a regular draft of air through them; continually passing upwards, from about five or six o'clock in the afternoon, till eight or nine o'clock the next morning, when the current begins to slacken and hesitate a little, for about half an hour, and then sets as strongly down again, which it continues to do till towards five in the afternoon, then slackens and hesitates as before, going sometimes a little up, then a little down, till in about a half an hour, it gets into a steady upward current for the night, which continues till eight or nine the next day; the hours varying a little as the days lengthen and shorten, and sometimes varying from sudden changes in the weather; as if, after being long warm, it should begin to grow cool about noon, while the air was coming down the chimney, the current will then change earlier than the usual hour, &c.

This property in chimneys I imagine we might turn to some account, and render improper, for the future, the old saying, *as useless as a chimney in summer.* If the opening of the chimney, from the breast down to the hearth, be closed by a slight moveable frame or two, in the manner of doors covered with canvas, that will let the air through, but keep out the flies; and another little frame set within upon the hearth, with hooks on which to hang joints of meat, fowls, &c. wrapt well in wet linen cloths, three or four fold, I am confident, that if the linen is kept wet by sprinkling it once a day, the meat would be so cooled by the evaporation, carried on continually by means of the passing air, that it would keep a week or more in the hottest weather. Butter and milk might likewise be kept cool, in vessels or bottles covered with wet cloths. A shallow tray, or keeler, should be under the frame, to receive any water that might drip from the wetted cloths. I think, too, that this property of chimneys might, by means of smokejack vanes, be applied to some mechanical purposes, where a small but pretty constant power only is wanted.

If you would have my opinion of the cause of this changing current of air in chimneys, it is, in short, as follows: In summer time there is generally a great difference in the warmth of the air at midday and midnight, and of course a difference of specific gravity in the air, as the more it is warmed, the more it is rarefied. The funnel of a chimney being for the most part surrounded by the house, is protected, in a great measure, from the direct action of the sun's rays, and also from the coldness of the night air. It thence preserves a middle temperature between the heat of the day, and the coldness of the night. This middle temperature it communicates to the air contained in it. If the state of the outward air be cooler than that in the funnel of the chimney, it will, by being heavier, force it to rise, and go out at the top. What supplies its place from below, being warmed, in its turn, by the warmer funnel, is likewise forced up by the colder and weightier air below; and so the current is continued till the next day, when the sun gradually changes the state of the outward air, makes it first as warm as the funnel of the chimney can make it (when the current begins to hesitate), and afterwards warmer. Then the funnel being cooler than the air that comes into it, cools that air, makes it heavier than the outward air, of course it descends; and what succeeds it from above, being cooled in its turn, the descending current continues till towards the evening, when it again hesitates, and changes its course, from the change of warmth in the outward air, and the nearly remaining same middle temperature in the funnel.

Upon this principle, if a house were built behind Beacon Hill, an adit carried from one of the doors into the hill horizontally, till it met with a perpendicular shaft sunk from its top, it seems probable to me, that those who lived in the house, would constantly, in the heat even of the calmest day, have as much cool air passing through the house, as they should choose; and the same, though reversed in its current, during the stillest night.

I think, too, this property might be made of use to miners; as where several shafts or pits are sunk perpendicularly into the earth, communicating at bottom by horizontal passages, which is a common case, if a chimney of thirty or forty feet high were built over one of the shafts, or so near the shaft, that the chimney might communicate with the top of the shaft, all air being excluded but what should pass up or down by the shaft, a constant change of air would, by this means, be produced in the passages below, tending to secure the workmen from those damps, which so frequently incommode them. For the fresh air would be almost always going down the open shaft, to go up the chimney, or down the chimney, to go up the shaft. Let me add one observation more, which is, that, if that part of the funnel of a chimney, which appears above the roof of a house, be pretty long, and have three of its sides exposed to the heat of the sun successively, viz. when he is in the east, in the south, and in the west, while the north side is sheltered by the building from the cool northerly winds; such a chimney will often be so heated by the sun, as to continue the draft strongly upwards, through the whole twenty-four hours, and often for many days together. If the outside of such a chimney be painted black, the effect will be still greater, and the current stronger.

It is said the northern Chinese have a method of warming their ground floors, which is ingenious. Those floors are made of tiles a foot square and two inches thick, their corners being supported by bricks set on end, that are a foot long and four inches square; the tiles too join into each other, by ridges and hollows along their sides. This forms a hollow under the whole floor, which on one side of the house has an opening into the air, where a fire is made, and it has a funnel rising from the other side to carry off the smoke. The fuel is a sulphurous pitcoal, the smell of which in the room is thus avoided, while the floor, and of course the room is well warmed. But as the underside of the floor must grow foul with soot, and a thick coat of soot prevents much of the direct application of the hot air to the tiles, I conceive that burning the smoke, by obliging it to descend through red coals, would in this construction be very advantageous, as more heat would be given by the flame than by the smoke, and the floor being thereby kept free from soot, would be more heated with less fire. For this purpose, I would propose erecting the funnel close to the grate, so as to have only an iron plate between the fire and the funnel; through which plate the air in the funnel being heated, it will be sure to draw well, and force the smoke to descend, as in Plate XIV. Fig. 9, where *A* is the funnel or chimney, *B* the grate on which the fire is placed, *C* one of the apertures through which the descending smoke is drawn into the channel *D* of Fig. 10, along which channel it is conveyed by a circuitous route, as designated by the arrows, until it arrives at the small aperture *E*, Fig. 10 through which it enters the funnel *F*. *G*, in both Figures, is the iron plate against which the fire is made, which being heated thereby, will rarefy the air in that part of the funnel, and cause the smoke to ascend rapidly. The flame, thus dividing from the grate to the right and left, and turning in passages, disposed, as in Fig. 10, so as that every part of the floor may be visited by it before it enters the funnel *F*, by the two passages *E E*, very little of the heat will be lost, and a winter room thus rendered very comfortable.[1]

See Aug. 28, 1785. *Few can imagine*, &c. It is said the Icelanders have very little fuel, chiefly drift wood that comes upon their coast. To receive more advantage from its heat, they make their doors low, and have a stage round the room above the door, like a gallery, wherein the women can sit and work, the men read or write, &c. The roof being tight, the warm air is confined by it and kept from rising higher and escaping; and the cold air, which enters the house when the door is opened, cannot rise above the level of the top of the door, because it is heavier than the warm air above the door, and so those in the gallery are not incommoded by it. Some of our too lofty rooms might have a stage so constructed as to make a temporary gallery above, for the winter, to be taken away in summer. Sedentary people would find much comfort there in cold weather.

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[1] For the Plates, see Letter to Ingenhousz, Aug. 28, 1785. — Ed.

See Aug. 28, 1785. *Where they have the art of managing it,* &c. In some houses of the lower people among the northern nations of Europe, and among the poorer sort of Germans in Pennsilvania, I have observed this construction, which appears very advantageous: (Plate, Fig. 11.) *A* is the kitchen with its chimney; *B*, an iron stove in the stove room. In a corner of the chimney is a hole through the back into the stove, to put in fuel, and another hole above it to let the smoke of the stove come back into the chimney. As soon as the cooking is over, the brands in the kitchen chimney are put through the hole to supply the stove, so that there is seldom more than one fire burning at a time. In the floor over the stove room is a small trap door, to let the warm air rise occasionally into the chamber. Thus the whole house is warmed at little expence of wood, and the stove room kept constantly warm; so that in the coldest winter nights, they can work late, and find the room still comfortable when they rise to work early. An English farmer in America, who makes great fires in large open chimneys, needs the constant employment of one man to cut and haul wood for supplying them; and the draft of cold air to them is so strong, that the heels of his family are frozen, while they are scorching their faces, and the room is never warm, so that little sedentary work can be done by them in winter. The difference in this article alone of economy shall, in a course of years, enable the German to buy out the Englishman, and take possession of his plantation.

Miscellaneous Observations.

Chimneys, whose funnels go up in the north wall of a house, and are exposed to the north winds, are not so apt to draw well as those in a south wall; because, when rendered cold by those winds, they draw downwards.

Chimneys, enclosed in the body of a house, are better than those whose funnels are exposed in cold walls.

Chimneys in stacks are apt to draw better than separate funnels; because the funnels, that have constant fires in them, warm the others in some degree that have none.

One of the funnels in a house I once occupied, had a particular funnel joined to the south side of the stack, so that three of its sides were exposed to the sun in the course of the day, viz. (Plate, Fig. 12,) the east side *E* during the morning, the south side *S* in the middle part of the day, and the west side *W* during the afternoon; while its north side was sheltered by the stack from the cold winds. This funnel, which came from the ground floor, and had a considerable height above the roof, was constantly in a strong drawing state day and night, winter and summer.

Blacking of funnels exposed to the sun, would probably make them draw still stronger.

In Paris I saw a fireplace so ingeniously contrived as to serve conveniently two rooms, a bedchamber and a study.

The funnel over the fire was round. The fireplace was of cast iron (Plate, Fig. 13,) having an upright back *A*, and two horizontal semicircular plates *B C*, the whole so ordered as to turn on the pivots *D E*. The plate *B* always stopped that part of the round funnel that was next to the room without fire, while the other half of the funnel over the fire was always open. By this means a servant in the morning could make a fire on the hearth *C*, then in the study, without disturbing the master by going into his chamber; and the master, when he rose, could, with a touch of his foot, turn the chimney on its pivots, and bring the fire into his chamber, keep it there as long as he wanted it, and turn it again, when he went out, into his study. The room which had no fire in it was also warmed by the heat coming through the back plate, and spreading in the room, as it could not go up the chimney.

273. TO ISRAEL PEMBERTON[1]

London, March 19, 1759

DEAR SIR

I received your favour of Dec. 11 and Jan^{ry} 19. by those Ships you will receive some of the printed Enquiries to which Post's first Journal is added, which being more generally interesting occasions the other to go into more Hands and be more read. Extracts of your and Mr Thomson's Letters are also added to make the Thing more compleat. M Hall has orders to deliver twenty five to you and M^r Thomson; and I hope you will promote the Sale of the rest, that the Charges of Printing etc. may be lessen'd.

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[1] Israel Pemberton (1715–1779), one of the founders of the "Friendly Association for regaining and preserving Peace with the Indians by pacific Measures." The letter is in the Boston Public Library. — ED.

I congratulate you heartily on the Reestablishment of Peace on your Borders, in which the Endeavours of your Association have had so large a Share. I pray that it may long continue. But if we abandon Pittsburg at the Instances of the Indians, I think the French will not fail to return; the Indians are too much divided and irresolute to prevent them; and they will easily again be debauch'd from our Interest. I hope therefore that Place will be retain'd; and at least a small Tract distinctly mark'd out round it, from which those who inhabit the Fort may raise their Provisions, but not suffered to extend Settlements beyond such Bounds as are agreed on; till future Treaties shall make farther Agreements. A Hunting Country ought without doubt to be secur'd to our Friends; but a strong Place and a small Compact Settlement there of sober orderly people must, I think, in the nature of Things, contribute greatly to the Security of the Colonies; by retaining the Friendship of the Indians thro' the Benefits of Trade and Neighborhood of Arts; and by bridling them if they are seduc'd by our enemies; or at least standing in the Gap and bearing the Blows as a Shield to our other Frontiers.

I have just receiv'd the Copy of Post's second Journal which will be of good use; and I am extremely obliged to you for your Care in sending Everything that is necessary to give us proper Information of the present State of Indian Affairs.

My Petition relating to Teedyuscung's Claims lay long in the Council Office before there was a Council to consider it. As soon as a Council met it was read and referr'd to the Board of Trade. As yet they have done nothing in it, but I understand they intend to appoint Commissioners out of the neighboring Provinces to make Enquiry, Examine Evidences and report what they can find to be the Truth of the Case.

It is everywhere represented here by the Proprietor's Friends that this charge of the Indians against him, is a mere Calumny, stirr'd up by the Malice of the Quakers who cannot forgive his Deserting their Sect. I expected he would be imprudent enough to publish the Report of his Council in his Justification; but I hear nothing of it and I suppose he does not quite like it. There are some shameless Falshoods in it that are easily expos'd. The Affidavids mentioned in it are not come to hand; I wish I could see them. I believe it will in time be clearly seen by all thinking People that the Government and Property of a Province should not be in the same Family. T'is too much weight in one Scale. I am of opinion the Crown would not be displeas'd with an Application to be taken under its immediate Government, and I think our Circumstances would be mended by it.

My son joins in best Respects and Wishes for you and yours, with, dear Sir,

Your affectionate Friend
and humble Servant
B. Franklin

274. TO DAVID HALL[1]

London, April 8. 1759.

DEAR MR. HALL.

I have yours of Nov^r 20. Dec^r 5 & 8. and Jan^y 18, with a Postscript of Feb. 5. — Your prudent Conduct in my Absence, with regard to the Parties, as well as in every other respect, gives me great Satisfaction. If I do not correspond so fully and punctually with you as you expected, consider the Situation and Business I am in, the Number of Correspondents I have to write to, the eternal Interruptions one meets with in this great City, the Visits one must necessarily receive and pay, the Entertainments or Amusements one is invited to and urg'd to partake of, besides the many Matters of Use and Importance worth a Stranger's while to enquire into who is soon to return to his own Country, and then if you make a little additional Allowance for the Indolence that naturally creeps upon us with Age, I think you will be more ready to excuse me.

I was surpriz'd to hear that the new Fount of Bourgeois was not got to hand, as I found by my Accounts that I had got it ready and order'd it to be shipt in September when I paid Caslon for it; but on Enquiry I find it was not shipt till November and then on board the Rebeccah & Susannah, Cap^t Nicholson; it was in two Boxes mark'd B F. No 1, 2. I must have sent you both the Bills for Lading, as I have neither of them by me. I hope long before this time it is got safe to hand. If you think another Fount of Brevier necessary besides this, let me know. I wish I had known sooner that you would have chosen Brevier rather than Bourgeois.

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[1] From the original letter in the Museum of Independence Hall, Philadelphia. — ED.

I congratulate you on the Success of our Forces and Fleet in driving the French from the Ohio, and establishing Peace with the Indians. I hope this year will finish our American War. The strong Fleet sent hence some time since for the Attempt on Quebec, is I imagine before now arriv'd on your Side; and the Troops embarking for that Service. God grant them Success, and deliver us for ever from those mischievous Neighbours.

You may remember you were always complaining, and justly, of the bad Pay of our Subscribers on the Post Roads, and urging me to fall on some Method of remedying the Evil for the future. The Instruction relating to the Carriage of Newspapers was form'd for that purpose; and I think must produce the Effect. Some good Paymasters may possibly at first take Offence and decline the Paper; but when they consider the Equity as well as Necessity of the Thing, their Disgust must in Time wear off, and they will return to us again. The greatest Part of those that drop, are such as would never pay, and whose Custom therefore is not worth keeping; or rather we may consider them as so many Benefactors, since they have remitted the expensive Tribute we us'd to pay 'em yearly in Paper and Printing. If we continue to print 18 Token and get paid for that Quantity, 'tis a very good Thing and we may be contented. But then the Instruction must be stuck to, and no Papers sent but what are engag'd for, otherwise all is to no purpose; and I must leave it to you to contrive a better Method, having now done my best.

You are in the right not to be uneasy at the Number of Printing Offices setting up in Philad^{a} The Country is increasing and Business must increase with it. We are pretty well establish'd and shall probably with God's Blessings and a prudent Conduct always have our Share. The young ones will not be so likely to hurt us as one another.

I much doubt whether I shall be able to send you Copy for the Almanack: I thought I should surely have sent it last Year, having collected many Materials which only wanted putting together, but Sickness at Times, other Business, and various Interruptions disappointed me. If you do not receive it by the Pacquet that sails from hence in May, shift without it one year more as you did very well last Year, and before another, I hope to be at home.

Parson Smith has been applying to Osborne for a large Cargo of Books, acquainting him that he could be of vast Service in selling great Quantities for him, as there was only one Hall at Philad^{a} who demanded excessive Prices; and if another Shop was but open'd where People could be supply'd reasonably, all the Custom would run to it. I know not whether he was to sell them himself or employ some other. He gave Osborne a Catalogue. Osborne came to me and ask'd me if I knew him, and that he should be safe in trusting him. I told him I believ'd my Townsmen who were Smith's Creditors would be glad to see him come back with a Cargo of any kind, as they might have some Chance of being paid out of it; And so I could not in Conscience dissuade him from trusting him. "Oh, says he, is that the Case; then he shall have no Books of me I assure you: He persuaded me to trust him 10 £'s worth of Books, and take his

Note payable in Six Months. But I will have the Money immediately or the Books again." —

As soon as I saw the three Third-Bills I found my Mistake. I had indeed receiv'd the N. 276, and enter'd it in my Bills deliver'd my Banker, but having Bills from Mr. Parker which I receiv'd and deliver'd at the same Time, when I came to look over my List I was deceiv'd by the Date of that Bill, being at N. York, and suppos'd therefore that it had come from him, the Bill itself being out of my Hands, no other Copy arriving, which would have given me an Opportunity of looking at the Indorsement. This was the Reason I did not give you Credit for it. I might have been set right if I had recurr'd to his and your Letters, but having no doubt I did not examine them. It was a Fault, and I am sorry it has given you so much Trouble. — However, the Method I took of sending you a compleat and particular List of all the Bills I suppos'd I had receiv'd from you, has enabled you to take the Step that has clear'd up the Difficulty effectually, by sending me those Three-Thirds as aforesaid.

I have receiv'd your Bill drawn by James Pemberton on D. Barclay & Son for 100 £. and since that, another of John Hunter on Messrs. Thomlinson &c. No 290, for 100 £ also. — I must repeat my Thanks for your careful and regular Remittances.

There is all Appearance that the ensuing Campaign will be a bloody one. The Powers at War on the Continent have exerted themselves to the utmost this Winter, to be able to bring vast Armies into the Field, and they are already in Motion. If the King of Prussia can stand his Ground this Year, 'tis thought his Enemies will be tired of so costly a War. And he bids fair for it, for he takes the Field this

Spring with as fine an Army as he had since the War began, and hitherto he has very little burthen'd his own People for Supplies either of Money or Men, drawing both from his Enemies or Neighbours. But what the Event will be God only knows. Three great Monarchys the most powerful in Europe besides the Swedes, all on his Back at once! No Magnamity (sic) but his own could think of bearing it; no Courage but his that would not sink under it, nor any less Bravery, Skill and Activity than his that would be equal to it. If he again should drub them all round, and at length obtain an honourable and advantageous Peace, his Renown will far exceed that of all the Heroes in History.

I am glad to hear Cousin Molly is better. I hope her Health will be fully restored. My Love to her and the Children; in which & Compliments to all Friends Billy joins with

Your affectionate Friend
& humble Servant
B. FRANKLIN.

P. S. Send me the Notes, Treaties and other public Things as you print them, for thro' waiting for the Seal and other Causes, I am often long without them. I wish you would also send me all Party Papers, or of a publick Nature, tho' printed by others. — I am often the last that sees such Things, and oblig'd to other People here for the Favour. — Send me also 2 of Mr. Scull's new Maps of the improv'd Part of Pensylvania. April 9. Since writing the above, I have receiv'd yours of Feb^{y} 27 per Fingloss with a Bill for 100 £ for which have given you Credit; and as to the Affair you mention can only say, that I have heard nothing of it, and you may depend on all the Candour you could wish from me on such Occasions — Billy has sent you in the 2 Vessels which lately sai'd for Philad^a 300 of the Enquirys 50 of which are to be deliver'd to the Assembly, 25 to Isr^l Pemberton & Charles Thomson, and the remaining 225 to be dispos'd of in Pensylvania and the neighbouring Governments.

275. TO MISS MARY STEVENSON[1] (P. C.)

Craven Street, Friday, May 4, 1759.

MY DEAR CHILD,

Hearing that you was in the Park last Sunday, I hop'd for the Pleasure of seeing you yesterday at the Oratorio in the Foundling Hospital; but, tho' I look'd with all the Eyes I had, not excepting even those I carry in my Pocket I could not find you; and this Morning your good Mama, has receiv'd a Line from you, by which we learn that you are return'd to Wanstead.

It is long since you heard from me, tho' not a Day passes in which I do not think of you with the same affectionate Regard and Esteem I ever had for you. My not writing is partly owing to an inexcusable Indolence, which I find grows upon me as I grow in Years, and partly to an Expectation I have had, from Week to Week, of making a little Journey into Essex, in which I intended to call at Wanstead, and promis'd myself the Pleasure of seeing you there. I have now fix'd this Day se'nnight for that Journey, and purpose to take Mrs. Stevenson out with me, leave her with you till the next Day, and call for her on Saturday in my Return. Let me know by a Line if you think any thing may make such a Visit from us at that time improper or inconvenient. Present my sincere Respects to Mrs. Tickell,[1] and believe me ever, dear Polly, your truly affectionate Friend and humble Servant, B. FRANKLIN.

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[1] From the private collection of T. Hewson Bradford, M.D. — ED.

P.S. We have Company that dine with us to-day, and your careful Mama, being busied about many things, cannot write. Will did not see you in the Park. Mr. Hunter and his sister are both gone. God prosper their Voyage. My Compliments to Miss Pitt.

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276. TO DR. WILLIAM HEBERDEN, AT LONDON[2]

(P. C.)

Thursday, June 7, '59.

DEAR SIR,

I have been so long in determining which to chuse of the two Tourmalines, that I fear you begin to think me unreasonable enough to keep them both. I now return the small one, and beg your Acceptance of my sincerest Thanks for the other, which tho' I value highly for its rare and wonderful Properties, I shall ever esteem it more for the Friendship I am honoured with by the Giver.

I hear that the Negative Electricity of one Side of the Tourmalin, when heated, is absolutely denied and all that has been related of it ascrib'd to Prejudice in favour of a System by some ingenious Gentlemen abroad, who profess to have made Experiments on the Stone with Care and

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[1] Aunt of Mary Stevenson. — ED.

[2] The original letter, now in the possession of Mr. E. D. Church, was formerly in the Rowfant Library. — ED.

Exactness. The Experiments have succeeded differently with me; yet I would not call the Accuracy of those Gentlemen in question. Possibly the Tourmalins they have try'd were not properly cut; so that the positive and negative Powers were obliquely plac'd, or in some manner whereby their Effects were confus'd, or the negative Part more easily supply'd by the positive. Perhaps the Lapidaries, who have hitherto cut these Stones, had no Regard to the Situation of the two Powers, but chose to make the Faces of the Stone where they could obtain the greatest Breadth, or some other Advantage in the Form. If any of these Stones, in their natural State, can be procur'd, I think it would be right to endeavour finding, before they are cut, the two Sides that contain the opposite Powers, and make the Faces there. Possibly, in that Case, the Effects might be stronger, and more distinct; for, tho' both these Stones, that I have examin'd, have evidently the two Properties, yet, without the full Heat given by boiling Water, they are somewhat confus'd; the Virtue seems strongest towards one End of the Face; and in the Middle, or near the other End, scarce discernible; and the Negative, I think, always weaker than the Positive.

I have had the large one new cut, so as to make both Sides alike, and find the Change of Form has made no Change of Power, but the Properties of each Side remain the same as I found them before. It is now set in a Ring in such a manner as to turn on an Axis, that I may conveniently, in making Experiments, come at both sides of the Stone: The little Rim of Gold it is set in, has made no Alteration in its Effects. The Warmth of my Finger, when I wear it, is sufficient to give it some Degree of Electricity, so that it is always ready to attract light Bodies.

The following Experiments have satisfy'd me, that M. Epinus's Account of the positive and negative States of the opposite Sides of the heated Tourmalin is well founded.

I heated the large Stone in boiling Water.

As soon as it was dry, I brought it near a very small Cork Ball, that was suspended by a silk Thread.

The Ball was attracted by one Face of the Stone, which I call *A*, and then repell'd.

The Ball in that State was also repelled by the positively charg'd Wire of the Phial, and attracted by the other Side of the Stone, *B*.

The Stone being fresh heated, and the Ball attracted by the side *B*, was presently after repell'd, by that Side.

In this second State it was repell'd by the negatively charg'd Wire of a Phial.

Therefore, if the Principles now generally receiv'd, relating to Positive and Negative Electricity, are true, the side *A* of the large Stone, when the Stone is heated in Water, is in a positive State of Electricity; and the side *B*, in a negative State.

The same Experiments being made with the small Stone, stuck by one Edge on the End of a small Glass Tube, with Sealing-Wax, the same Effects are produced. The flat Side of the small Stone gives the Signs of positive Electricity; the high Side gives the Signs of negative Electricity.

Farther

I suspended the small Stone by a Silk Thread.

I heated it, as it hung, in boiling Water.

I heated the large one in boiling Water.

Then I brought the large Stone near to the suspended small one;

Which immediately turn'd its flat Side to the Side *B* of the large Stone, and would cling to it.

I turn'd the Ring, so as to present the side *A* of the large Stone to the flat Side of the small one.

The flat Side was repell'd, and the small Stone, turning quick, apply'd its high Side to the Side *A* of the large one.

This was precisely what ought to happen, on the Supposition, that the flat Side of the small Stone, when heated in Water, is positive, and the high Side negative; the side *A* of the large Stone positive, and the side *B* negative.

The Effect was apparently the same as would have been produc'd, if one Magnet had been suspended by a Thread, and the different Poles of another brought alternately near it.

I find that the Face *A* of the large Stone, being coated with Leaf Gold (attach'd by the White of an Egg, which will bear dipping in hot Water), becomes quicker and stronger in its Effect on the Cork Ball, repelling it the Instant it comes in contact; which I suppose to be occasion'd by the united Force of different Parts of the Face collected and acting together thro' the Metal.

You have a Right to all the Experiments and Observations I have made or may make on this admirable Stone. I therefore offer no Apology at giving you Trouble, when I only intend performing a Duty, which you may forbid whenever it becomes disagreeable. With the greatest Esteem and Respect, I am, &c.

B. FRANKLIN.

277. TO JAMES WRIGHT[1] (P. C.)

London, July 9, 1759

DEAR SIR,

By the Cornelia, Capt. Smith, I sent you in a Box to Mrs. Franklin

	£.	s.	d.
Norden's Egypt, cost	4	4	0
Maintenon's Letters & a Book of Husb'y	0	6	0
A Thermometer	1	11	6
	£6	1	6

which I hope got safe to hand. There has been at my House one Mary James who was taken from Juniata about 3 years & a half since, and carried by the Indians to Canada, was redeem'd from them by Col. Schuyler & got among the French; was sent with other Prisoners to old France, and after living there 15 Months, got over hither. She tells me she left two Children with you & your good Sister, whom she is very desirous of seeing. I am endeavouring to procure a Passage for her.

I wrote to you some time since concerning the Silk Affair. For public Matters must beg leave to refer you to my Letters to the Speaker having now only time to add that I am, with affectionate Regards to all Friends, at the River.

Your most obedient Servant

B. FRANKLIN.

Billy presents his Respects.

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[1] From the collection of J. Ewing Mifflin, Esq. — ED.

NAZARETH COLLEGE OF ROCHESTER
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